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<223> Glycosaminoglycan Attachment Site.
<220>
<221> TRANSMEM
<222> 136-152
<223> Transmembrane Domain
<220>
<221> misc feature
\langle 222 \rangle 161-\overline{1}63, 187-190 and 253-256
<223> N-glycosylation Sites.
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Met Leu Phe Trp Val Leu Gly Leu Leu Ile Leu Cys Gly Phe Leu
 Trp Thr Arg Lys Gly Lys Leu Lys Ile Glu Asp Ile Thr Asp Lys
Tyr Ile Phe Ile Thr Gly Cys Asp Ser Gly Phe Gly Asn Leu Ala
Ala Arg Thr Phe Asp Lys Lys Gly Phe His Val Ile Ala Ala Cys
Leu Thr Glu Ser Gly Ser Thr Ala Leu Lys Ala Glu Thr Ser Glu
Arg Leu Arg Thr Val Leu Leu Asp Val Thr Asp Pro Glu Asn Val
Lys Arg Thr Ala Gln Trp Val Lys Asn Gln Val Gly Glu Lys Gly
Leu Trp Gly Leu Ile Asn Asn Ala Gly Val Pro Gly Val Leu Ala
Pro Thr Asp Trp Leu Thr Leu Glu Asp Tyr Arg Glu Pro Ile Glu
Val Asn Leu Phe Gly Leu Ile Ser Val Thr Leu Asn Met Leu Pro
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Leu Val Lys Lys Ala Gln Gly Arg Val Ile Asn Val Ser Ser Val
                 155
Gly Gly Arg Leu Ala Ile Val Gly Gly Tyr Thr Pro Ser Lys
                 170
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190

195

Tyr Ala Val Glu Gly Phe Asn Asp Ser Leu Arg Arg Asp Met Lys

185

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Ala Phe Gly Val His Val Ser Cys Ile Glu Pro Gly Leu Phe Lys 210

Thr Asn Leu Ala Asp Pro Val Lys Val Ile Glu Lys Lys Lys Leu Ala 225

Ile Trp Glu Gln Leu Ser Pro Asp Ile Lys Gln Gln Tyr Gly Glu 240

Gly Tyr Ile Glu Lys Ser Leu Asp Lys Lys Gly Asn Lys Ser 255

Tyr Val Asn Met Asp Leu Ser Pro Val Val Glu Cys Met Asp His 270

Ala Leu Thr Ser Leu Phe Pro Lys Thr His Tyr Ala Ala Gly Lys 285

Asp Ala Lys Ile Phe Trp Ile Pro Leu Ser His Met Pro Ala Ala 300

Leu Gln Asp Phe Leu Leu Leu Lys Gln Lys Ala Glu Leu Ala Asn
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Pro Lys Ala Val

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<213> Homo sapines

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gccccttggg ccgtcgccac cactgtagtc atgtacccac cgccgccgcc 150
gccgcctcat cgggacttca tctcggtgac gctgagcttt ggcgagagct 200
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gageggtgat egageetgag eagggeaceg ageteeette aagaagagea 700 gaagtgccca ccaagcctcc cctgccaccg gccaggacac agggcacacc 750 agtgcatctg aactatcgcc agaagggcgt gattgacgtc ttcctgcatg 800 catggaaagg ataccgcaag tttgcatggg gccatgacga gctgaagcct 850 gtgtccaggt ccttcagtga gtggtttggc ctcggtctca cactgatcga 900 cgcgctggac accatgtgga tcttgggtct gaggaaagaa tttgaggaag 950 ccaggaagtg ggtgtcgaag aagttacact ttgaaaagga cgtggacgtc 1000 aacctgtttq aqaqcacqat ccgcatcctg ggggggctcc tgagtgccta 1050 ccacctgtct ggggacagcc tcttcctgag gaaagctgag gattttggaa 1100 atcggctaat gcctgccttc agaacaccat ccaagattcc ttactcggat 1150 gtgaacatcg gtactggagt tgcccacccg ccacggtgga cctccgacag 1200 cactgtggcc gaggtgacca gcattcagct ggagttccgg gagctctccc 1250 gtctcacagg ggataagaag tttcaggagg cagtggagaa ggtgacacag 1300 cacatccacg gcctgtctgg gaagaaggat gggctggtgc ccatgttcat 1350 caatacccac agtggcctct tcacccacct gggcgtattc acgctgggcg 1400 ccagggccga cagctactat gagtacctgc tgaagcagtg gatccagggc 1450 gggaagcagg agacacagct gctggaagac tacgtggaag ccatcgaggg 1500 tgtcagaacg cacctgctgc ggcactccga gcccagtaag ctcacctttg 1550 tgggggaget tgcccacgge cgettcagtg ccaagatgga ccacctggtg 1600 tgcttcctgc cagggacgct ggctctgggc gtctaccacg gcctgcccgc 1650 cagccacatg gagctggccc aggagctcat ggagacttgt taccagatga 1700 accggcagat ggagacgggg ctgagtcccg agatcgtgca cttcaacctt 1750 tacccccagc cgggccgtcg ggacgtggag gtcaagccag cagacaggca 1800 caacctgctg cggccagaga ccgtggagag cctgttctac ctgtaccgcg 1850 tcacagggga ccgcaaatac caggactggg gctgggagat tctgcagagc 1900 ttcagccgat tcacacgggt cccctcgggt ggctattctt ccatcaacaa 1950 tgtccaggat cctcagaagc ccgagcctag ggacaagatg gagagcttct 2000 tcctggggga gacgctcaag tatctgttct tgctcttctc cgatgaccca 2050 aacctgctca gcctggacgc ctacgtgttc aacaccgaag cccaccctct 2100

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<212> PRT

<213> Homo sapiens

<221> TRANSMEM

<222> 21-40 and 84-105

<223> Transmembrane Domain (type II)

<400> 12

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Gln Ser Asp Phe Leu Thr Pro Pro Val Gly Gly Ala Pro Trp Ala

Val Ala Thr Thr Val Val Met Tyr Pro Pro Pro Pro Pro Pro Pro

His Arg Asp Phe Ile Ser Val Thr Leu Ser Phe Gly Glu Ser Tyr

Asp Asn Ser Lys Ser Trp Arg Arg Ser Cys Trp Arg Lys Trp

Lys Gln Leu Ser Arg Leu Gln Arg Asn Met Ile Leu Phe Leu Leu

Ala Phe Leu Leu Phe Cys Gly Leu Leu Phe Tyr Ile Asn Leu Ala 100

Asp His Trp Lys Ala Leu Ala Phe Arg Leu Glu Glu Glu Gln Lys Met Arg Pro Glu Ile Ala Gly Leu Lys Pro Ala Asn Pro Pro Val 135 Leu Pro Ala Pro Gln Lys Ala Asp Thr Asp Pro Glu Asn Leu Pro Glu Ile Ser Ser Gln Lys Thr Gln Arg His Ile Gln Arg Gly Pro 165 155 160 Pro His Leu Gln Ile Arg Pro Pro Ser Gln Asp Leu Lys Asp Gly Thr Gln Glu Glu Ala Thr Lys Arg Gln Glu Ala Pro Val Asp Pro 195 Arg Pro Glu Gly Asp Pro Gln Arg Thr Val Ile Ser Trp Arg Gly Ala Val Ile Glu Pro Glu Gln Gly Thr Glu Leu Pro Ser Arg Arg Ala Glu Val Pro Thr Lys Pro Pro Leu Pro Pro Ala Arg Thr Gln Gly Thr Pro Val His Leu Asn Tyr Arg Gln Lys Gly Val Ile Asp Val Phe Leu His Ala Trp Lys Gly Tyr Arg Lys Phe Ala Trp Gly His Asp Glu Leu Lys Pro Val Ser Arg Ser Phe Ser Glu Trp Phe Gly Leu Gly Leu Thr Leu Ile Asp Ala Leu Asp Thr Met Trp Ile Leu Gly Leu Arg Lys Glu Phe Glu Glu Ala Arg Lys Trp Val Ser Lys Lys Leu His Phe Glu Lys Asp Val Asp Val Asn Leu Phe Glu Ser Thr Ile Arg Ile Leu Gly Gly Leu Leu Ser Ala Tyr His Leu Ser Gly Asp Ser Leu Phe Leu Arg Lys Ala Glu Asp Phe Gly Asn 350 Arg Leu Met Pro Ala Phe Arg Thr Pro Ser Lys Ile Pro Tyr Ser Asp Val Asn Ile Gly Thr Gly Val Ala His Pro Pro Arg Trp Thr 380 Ser Asp Ser Thr Val Ala Glu Val Thr Ser Ile Gln Leu Glu Phe

				395					400					405
Arg	Glu	Leu	Ser	Arg 410	Leu	Thr	Gly	Asp	Lys 415	Lys	Phe	Gln	Glu	Ala 420
Val	Glu	Lys	Val	Thr 425	Gln	His	Ile	His	Gly 430	Leu	Ser	Gly	Lys	Lys 435
Asp	Gly	Leu	Val	Pro 440	Met	Phe	Ile	Asn	Thr 445	His	Ser	Gly	Leu	Phe 450
Thr	His	Leu	Gly	Val 455	Phe	Thr	Leu	Gly	Ala 460	Arg	Ala	Asp	Ser	Tyr 465
Tyr	Glu	Tyr	Leu	Leu 470	Lys	Gln	Trp	Ile	Gln 475	Gly	Gly	Lys	Gln	Glu 480
Thr	Gln	Leu	Leu	Glu 485	Asp	Tyr	۷al	Glu	Ala 490	Ile	Glu	Gly	Val	Arg 495
Thr	His	Leu	Leu	Arg 500	His	Ser	Glu	Pro	Ser 505	Lys	Leu	Thr	Phe	Val 510
Gly	Glu	Leu	Ala	His 515	Gly	Arg	Phe	Ser	Ala 520	Lys	Met	Asp	His	Leu 525
Val	Cys	Phe	Leu	Pro 530	Gly	Thr	Leu	Ala	Leu 535	Gly	Val	Tyr	His	Gl _y 540
Leu	Pro	Ala	Ser	His 545	Met	Glu	Leu	Ala	Gln 550	Glu	Leu	Met	Glu	Thr 555
Суз	Tyr	Gln	Met	Asn 560	Arg	Gln	Met	Glu	Thr 565	Gly	Leu	Ser	Pro	Glu 570
Ile	Val	His	Phe	Asn 575	Leu	Tyr	Pro	Gln	Pro 580	Gly	Arg	Arg	Asp	Val 585
Glu	Val	Lys	Pro	Ala 590	Asp	Arg	His	Asn	Leu 595	Leu	Arg	Pro	Glu	Thr 600
Val	Glu	Ser	Leu	Phe 605	Tyr	Leu	Tyr	Arg	Val 610	Thr	Gly	Asp	Arg	Lys 615
Tyr	Gln	Asp	Trp	Gly 620	Trp	Glu	Ile	Leu	Gln 625	Ser	Phe	Ser	Arg	Phe 630
Thr	Arg	Val	Pro	Ser 635	Gly	Gly	Tyr	Ser	Ser 640	Ile	Asn	Asn	Val	Glr 645
Asp	Pro	Gln	Lys	Pro 650	Glu	Pro	Arg	Asp	Lys 655	Met	Glu	Ser	Phe	Phe
Leu	Gly	Glu	Thr	Leu 665	Lys	Tyr	Leu	Phe	Leu 670	Leu	Phe	Ser	Asp	Asr 675
Pro	Asn	Leu	Leu	Ser 680		Asp	Ala	Tyr	Val 685	Phe	Asn	Thr	Glu	Ala 690

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His Pro Leu Pro Ile Trp Thr Pro Ala
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<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
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<210> 14
<211> 24
<212> DNA
<213> Artificial
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<222> 1-24
<223> Synthetic construct.
<400> 14
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<210> 15
<211> 44
<212> DNA
<213> Artificial
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<221> Artificial Sequence
<222> 1-44
<223> Synthetic construct.
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<210> 16
<211> 1524
<212> DNA
<213> Homo sapiens
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 cccatgcgcc gccgcctctc cgcacgatgt tcccctcgcg gaggaaagcg 100
 gcgcagctgc cctgggagga cggcaggtcc gggttgctct ccggcggcct 150
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ccctcggaag tgttccgtct tccacctgtt cgtggcctgc ctctcgctgg 200

gcttcttctc cctactctgg ctgcagctca gctgctctgg ggacgtggcc 250

cqqqcaqtca qqqqacaagg gcaggagacc tcgggccctc cccgtgcctg 300 cccccagag ccgcccctg agcactggga agaagacgca tcctggggcc 350 cccaccqcct ggcagtgctg gtgcccttcc gcgaacgctt cgaggagctc 400 ctggtcttcg tgccccacat gcgccgcttc ctgagcagga agaagatccg 450 gcaccacatc tacqtqctca accaggtgga ccacttcagg ttcaaccggg 500 cagcgctcat caacgtgggc ttcctggaga gcagcaacag cacggactac 550 attgccatgc acgacgttga cctgctccct ctcaacgagg agctggacta 600 tggctttcct gaggctgggc ccttccacgt ggcctccccg gagctccacc 650 ctctctacca ctacaagacc tatgtcggcg gcatcctgct gctctccaag 700 cagcactacc ggctgtgcaa tgggatgtcc aaccgcttct ggggctgggg 750 ccgcgaggac gacgagttct accggcgcat taagggagct gggctccagc 800 ttttccgccc ctcgggaatc acaactgggt acaagacatt tcgccacctg 850 catgacccag cctggcggaa gagggaccag aagcgcatcg cagctcaaaa 900 acaggagcag ttcaaggtgg acagggaggg aggcctgaac actgtgaagt 950 accatgtggc ttcccgcact gccctgtctg tgggcggggc cccctgcact 1000 gtcctcaaca tcatgttgga ctgtgacaag accgccacac cctggtgcac 1050 attcagetga getggatgga cagtgaggaa geetgtaeet acaggeeata 1100 ttqctcaqqc tcaqqacaaq gcctcaqqtc gtgggcccag ctctgacagg 1150 atgtggagtg gccaggacca agacagcaag ctacgcaatt gcagccaccc 1200 ggccgccaag gcaggcttgg gctgggccag gacacgtggg gtgcctggga 1250 cgctgcttgc catgcacagt gatcagagag aggctggggt gtgtcctgtc 1300 egggaceece cetgeettee tgeteaceet actetgacet cetteacgtg 1350 cccaqqcctq tqqqtaqtqq qqaqqqctqa acaqqacaac ctctcatcac 1400 cctactetga cctccttcac qtqcccaqqc ctqtqqqtaq tqqqqagqqc 1450

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<210> 17

<211> 327

<212> PRT

<213> Homo sapiens

<220>

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<221> sig peptide
<222> 1-42
<223> Signal peptide.
<220>
<221> misc feature
<222> 19-25,65-71,247-253,285-291,303-310
<223> N-myristoylation site.
<220>
<221> misc feature
<222> 27-31
<223> cAMP- and cGMP-dependent protein kinase phosphorylation site.
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<221> TRANSMEM
<222> 29-49
<223> Transmembrane domain (type II).
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<221> misc feature
<222> 154-158
<223> N-glycosylation site.
<220>
<221> misc feature
<222> 226-233
<223> Tyrosine kinase phosphorylation site.
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 Gly Arg Ser Gly Leu Leu Ser Gly Gly Leu Pro Arg Lys Cys Ser
 Val Phe His Leu Phe Val Ala Cys Leu Ser Leu Gly Phe Phe Ser
 Leu Leu Trp Leu Gln Leu Ser Cys Ser Gly Asp Val Ala Arg Ala
 Val Arg Gly Gln Gly Gln Glu Thr Ser Gly Pro Pro Arg Ala Cys
 Pro Pro Glu Pro Pro Glu His Trp Glu Glu Asp Ala Ser Trp
 Gly Pro His Arg Leu Ala Val Leu Val Pro Phe Arg Glu Arg Phe
                                      100
                                                          105
                  95
 Glu Glu Leu Leu Val Phe Val Pro His Met Arg Arg Phe Leu Ser
                 110
                                      115
 Arg Lys Lys Ile Arg His His Ile Tyr Val Leu Asn Gln Val Asp
                 125
                                      130
                                                          135
 His Phe Arg Phe Asn Arg Ala Ala Leu Ile Asn Val Gly Phe Leu
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Glu	Ser	Ser	Asn	Ser 155	Thr	Asp	Tyr	Ile	Ala 160	Met	His	Asp	Val	Asp 165
Leu	Leu	Pro	Leu	Asn 170	Glu	Glu	Leu	Asp	Tyr 175	Gly	Phe	Pro	Glu	Ala 180
Gly	Pro	Phe	His	Val 185	Ala	Ser	Pro	Glu	Leu 190	His	Pro	Leu	Tyr	His 195
Tyr	Lys	Thr	Tyr	Val 200	Gly	Gly	Ile	Leu	Leu 205	Leu	Ser	Lys	Gln	His 210
Tyr	Arg	Leu	Cys	Asn 215	Gly	Met	Ser	Asn	Arg 220	Phe	Trp	Gly	Trp	Gly 225
Arg	Glu	Asp	Asp	Glu 230	Phe	Tyr	Arg	Arg	Ile 235	Lys	Gly	Ala	Gly	Leu 240
Gln	Leu	Phe	Arg	Pro 245	Ser	Gly	Ile	Thr	Thr 250	Gly	Tyr	Lys	Thr	Phe 255
Arg	His	Leu	His	Asp 260	Pro	Ala	Trp	Arg	Lys 265	Arg	Asp	Gln	Lys	Arg 270
Ile	Ala	Ala	Gln	Lys 275	Gln	Glu	Gln	Phe	Lys 280	Val	Asp	Arg	Glu	Gly 285
Gly	Leu	Asn	Thr	Val 290	Lys	Tyr	His	Val	Ala 295	Ser	Arg	Thr	Ala	Leu 300
Ser	Val	Gly	Gly	Ala 305	Pro	Cys	Thr	Val	Leu 310	Asn	Ile	Met	Leu	Asp 315
Cys	Asp	Lys	Thr	Ala 320	Thr	Pro	Trp	Cys	Thr 325	Phe	Ser			
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<220> <221> Artificial Sequence <222> 1-23 <223> Synthetic construct.														
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<222> 3-18

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<211> 46
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<222> 1-46
<223> Synthetic construct.
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<210> 21
<211> 494
<212> DNA
<213> Homo sapiens
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 gactggtcgg tgcccagaaa gtctcttctg ccactgacgc ccccatcagg 150
 gattgggcct tctttccccc ttcctttctg tgtctcctgc ctcatcggcc 200
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 ggctaggggg gctgccttat ttaaagtggt tgtttatgat tcttatacta 350
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<213> Homo sapiens
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<221> sig_peptide
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<223> Signal peptide.
<220>
<221> misc feature
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<223> Growth factor and cytokines receptors family.

<400> 22

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Ser Cys Leu Glu Trp Gly Leu Val Gly Ala Gln Lys Val Ser Ser 20 25 30

Ala Thr Asp Ala Pro Ile Arg Asp Trp Ala Phe Pro Pro Ser 35 40 45

Phe Leu Cys Leu Leu Pro His Arg Pro Ala Met Thr Cys Ser Gln 50 55 60

Ala Gln Pro Arg Gly Glu Gly Glu Lys Val Gly Asp Gly
65 70

<210> 23

<211> 2883

<212> DNA

<213> Homo sapiens

<400> 23

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acatgtgaaa aaattttatt tgacttaaaa qtttatttat ttqttttttt 2350 gctcctgatt ttaagacaat aagatgtttt catgggcccc taaaagtatc 2400 atgageettt ggeaetgege etgeeaagee tagtggagaa gteaaceetg 2450 agaccaggtg tttaatcaag caagctgtat atcaaaattt ttggcagaaa 2500 acacaaatat gtcatatatc tttttttaaa aaaagtattt cattgaagca 2550 agcaaaatga aagcattttt actgattttt aaaattggtg ctttagatat 2600 atttgactac actgtattga agcaaataga ggaggcacaa ctccagcacc 2650 ctaatggaac cacattttt tcacttagct ttctgtgggc atgtgtaatt 2700 gtattctctg cggtttttaa tctcacagta ctttatttct gtcttgtccc 2750 tcaataatat cacaaacaat attccagtca ttttaatggc tgcataataa 2800 ctgatccaac aggtgttagg tgttctggtt tagtgtgagc actcaataaa 2850 tattgaatga atgaacgaaa aaaaaaaaaa aaa 2883

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<211> 616
<212> PRT
<213> Homo sapiens
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<223> Signal peptide.

<220> <221> TRANSMEM

<222> 13-40 <223> Transmembrane domain (type II).

<400> 24

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Leu Leu Pro Leu Ser Leu Leu Ala Leu Leu Ala Leu Leu Gly Gly

Gly Gly Gly Gly Ala Ala Ala Leu Pro Ala Gly Cys Lys His

Asp Gly Arg Pro Arg Gly Ala Gly Arg Ala Ala Gly Ala Ala Glu

Gly Lys Val Val Cys Ser Ser Leu Glu Leu Ala Gln Val Leu Pro

Pro Asp Thr Leu Pro Asn Arg Thr Val Thr Leu Ile Leu Ser Asn

Asn Lys Ile Ser Glu Leu Lys Asn Gly Ser Phe Ser Gly Leu Ser Leu Leu Glu Arg Leu Asp Leu Arg Asn Asn Leu Ile Ser Ser Ile 120 Asp Pro Gly Ala Phe Trp Gly Leu Ser Ser Leu Lys Arg Leu Asp 125 Leu Thr Asn Asn Arg Ile Gly Cys Leu Asn Ala Asp Ile Phe Arg 140 145 150 Gly Leu Thr Asn Leu Val Arg Leu Asn Leu Ser Gly Asn Leu Phe Ser Ser Leu Ser Gln Gly Thr Phe Asp Tyr Leu Ala Ser Leu Arg 170 Ser Leu Glu Phe Gln Thr Glu Tyr Leu Leu Cys Asp Cys Asn Ile Leu Trp Met His Arg Trp Val Lys Glu Lys Asn Ile Thr Val Arg Asp Thr Arg Cys Val Tyr Pro Lys Ser Leu Gln Ala Gln Pro Val Thr Gly Val Lys Gln Glu Leu Leu Thr Cys Asp Pro Pro Leu Glu Leu Pro Ser Phe Tyr Met Thr Pro Ser His Arg Gln Val Val Phe Glu Gly Asp Ser Leu Pro Phe Gln Cys Met Ala Ser Tyr Ile Asp Gln Asp Met Gln Val Leu Trp Tyr Gln Asp Gly Arg Ile Val Glu Thr Asp Glu Ser Gln Gly Ile Phe Val Glu Lys Asn Met Ile His Asn Cys Ser Leu Ile Ala Ser Ala Leu Thr Ile Ser Asn Ile Gln 315 Ala Gly Ser Thr Gly Asn Trp Gly Cys His Val Gln Thr Lys Arg Gly Asn Asn Thr Arg Thr Val Asp Ile Val Val Leu Glu Ser Ser 335 345 Ala Gln Tyr Cys Pro Pro Glu Arg Val Val Asn Asn Lys Gly Asp Phe Arg Trp Pro Arg Thr Leu Ala Gly Ile Thr Ala Tyr Leu Gln 365 375 Cys Thr Arg Asn Thr His Gly Ser Gly Ile Tyr Pro Gly Asn Pro

380 385 390 Gln Asp Glu Arg Lys Ala Trp Arg Arg Cys Asp Arg Gly Gly Phe Trp Ala Asp Asp Tyr Ser Arg Cys Gln Tyr Ala Asn Asp Val 410 Thr Arq Val Leu Tyr Met Phe Asn Gln Met Pro Leu Asn Leu Thr 430 Asn Ala Val Ala Thr Ala Arg Gln Leu Leu Ala Tyr Thr Val Glu Ala Ala Asn Phe Ser Asp Lys Met Asp Val Ile Phe Val Ala Glu Met Ile Glu Lys Phe Gly Arg Phe Thr Lys Glu Glu Lys Ser Lys Glu Leu Gly Asp Val Met Val Asp Ile Ala Ser Asn Ile Met Leu Ala Asp Glu Arg Val Leu Trp Leu Ala Gln Arg Glu Ala Lys Ala Cys Ser Arg Ile Val Gln Cys Leu Gln Arg Ile Ala Thr Tyr Arg Leu Ala Gly Gly Ala His Val Tyr Ser Thr Tyr Ser Pro Asn Ile Ala Leu Glu Ala Tyr Val Ile Lys Ser Thr Gly Phe Thr Gly Met Thr Cys Thr Val Phe Gln Lys Val Ala Ala Ser Asp Arg Thr Gly Leu Ser Asp Tyr Gly Arg Arg Asp Pro Glu Gly Asn Leu Asp Lys 575 Gln Leu Ser Phe Lys Cys Asn Val Ser Asn Thr Phe Ser Ser Leu Ala Leu Lys Val Cys Tyr Ile Leu Gln Ser Phe Lys Thr Ile Tyr

Ser

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<211> 24

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<220h

<221> Artificial Sequence

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<223> Synthetic construct.
<400> 26
aactggaaag gaaggctgtc tccc 24
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<220>
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<222> 1-50
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<211> 683
<212> DNA
<213> Homo sapiens
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 gcagaggctt cgtgacggag ttatcagaga cattgagagg caaattcgga 150
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 tgtccagtgc ttagggttgt tactgagaag cactgccgag cttgtgagaa 550
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<210> 29

<211> 81

<212> PRT

<213> Homo sapiens

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<222> 1-21

<223> Signal peptide.

<400> 29

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Thr Ala Ala Thr Val Ala Gly Val His Val Lys Gln Gln Trp Asp 20 25 30

Gln Gln Arg Leu Arg Asp Gly Val Ile Arg Asp Ile Glu Arg Gln 35 40 45

Ile Arg Lys Lys Glu Asn Ile Arg Leu Leu Gly Glu Gln Ile Ile
50 55 60

Leu Thr Glu Gln Leu Glu Ala Glu Arg Glu Lys Met Leu Leu Ala 65 70 75

Lys Gly Ser Gln Lys Ser

<210> 30

<211> 2128

<212> DNA

<213> Homo sapiens

<400> 30

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tccgtggatt cctctgctaa gaccgctgcc atgccagtga cggtaacccg 150
caccaccatc acaaccacca cgacgtcatc ttcggggcctg gggtccccca 200
tgatcgtggg gtcccctcgg gccctgacac agcccctggg tctccttcgc 250
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gggcgcctgg acggggtcca tgggcaactg gtccatgttc acctggtgct 350
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<210> 31

<211> 322

<212> PRT

<213> Homo sapiens

<400> 31

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20 25 30

Ala Leu Thr Gln Pro Leu Gly Leu Leu Arg Leu Leu Gln Leu Val
35 40 45

Ser Thr Cys Val Ala Phe Ser Leu Val Ala Ser Val Gly Ala Trp
50 55 60

Thr Gly Ser Met Gly Asn Trp Ser Met Phe Thr Trp Cys Phe Cys 65 70 75

Phe Ser Val Thr Leu Ile Ile Leu Ile Val Glu Leu Cys Gly Leu 80 85 90

Gln Ala Arg Phe Pro Leu Ser Trp Arg Asn Phe Pro Ile Thr Phe 95 100 105

Ala Cys Tyr Ala Ala Leu Phe Cys Leu Ser Ala Ser Ile Ile Tyr 110 115 120

Pro Thr Thr Tyr Val Gln Phe Leu Ser His Gly Arg Ser Arg Asp 125 130 135

His Ala Ile Ala Ala Thr Phe Phe Ser Cys Ile Ala Cys Val Ala 140 145 150

Tyr Ala Thr Glu Val Ala Trp Thr Arg Ala Arg Pro Gly Glu Ile 155 160 165

Thr Gly Tyr Met Ala Thr Val Pro Gly Leu Leu Lys Val Leu Glu

Thr Phe Val Ala Cys Ile Ile Phe Ala Phe Ile Ser Asp Pro Asn 185 190 195

Leu Tyr Gln His Gln Pro Ala Leu Glu Trp Cys Val Ala Val Tyr 200 205 210

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Ala Ile Cys Phe Ile Leu Ala Ala Ile Ala Ile Leu Leu Asn Leu
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Gly Glu Cys Thr Asn Val Leu Pro Ile Pro Phe Pro Ser Phe Leu
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                                     235
Ser Gly Leu Ala Leu Leu Ser Val Leu Leu Tyr Ala Thr Ala Leu
                245
Val Leu Trp Pro Leu Tyr Gln Phe Asp Glu Lys Tyr Gly Gly
                                     265
                260
Pro Arg Arg Ser Arg Asp Val Ser Cys Ser Arg Ser His Ala Tyr
                275
                                     280
Tyr Val Cys Ala Trp Asp Arg Arg Leu Ala Val Ala Ile Leu Thr
                                                         300
                290
Ala Ile Asn Leu Leu Ala Tyr Val Ala Asp Leu Val His Ser Ala
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His Leu Val Phe Val Lys Val 320

<210> 32 <211> 3680 <212> DNA <213> Homo sapiens

<400> 32

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ctggccagcc tatgcattt taagaaatta ttctgtatta ggtgctgtgc 200
taaacattgg gcactacagt gaccaaaaca gactgaattc cccaagagcc 250
aaagaccagt gagggagacc aacaagaaac aggaaatgca aaagagacca 300
ttattactca ctatgactaa gggtcacaaa tggggtacgt tgatggagag 350
tgatttgtta agagactaca gagggaggac agactaccaa gaggggggcc 400
aggaaagctc ctctgacgag gtggtattc agccaaact ggaagaatga 450
gaaagagcta gccagccatc agaatagtcc agaagagatg gggagcacta 500
cactcactac actttggcct gagaaaatag catgggattg gaggaggctg 550
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aagggcaatg gcagtagcag tagaaaggac agggtaggag cagggacttt 650
gcaggtggaa tcattaggtc ttatcaacag atatgggcaa gcaaagccag 700

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<211> 335

<212> PRT

<213> Homo sapiens

<400> 33

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Phe Gly Thr Val Ser Cys Glu Tyr Met Leu Gly Ser Pro Leu Ser 20 25 30

Ser Leu Ala Gln Val Asn Leu Ser Pro Phe Ser His Pro Lys Val
35 40 45

His Met Asp Pro Asn Tyr Cys His Pro Ser Thr Ser Leu His Leu
50 55 60

Cys Ser Leu Ala Trp Ser Phe Thr Arg Leu Leu His Pro Pro Leu
65 70 75

Ser Pro Gly Ile Ser Gln Val Val Lys Asp His Val Thr Lys Pro 80 85 90

Thr Ala Met Ala Gln Gly Arg Val Ala His Leu Ile Glu Trp Lys 95 100 105

Gly Trp Ser Lys Pro Ser Asp Ser Pro Ala Ala Leu Glu Ser Ala 110 115 120

Phe Ser Ser Tyr Ser Asp Leu Ser Glu Gly Glu Gln Glu Ala Arg 125 130 135

Phe Ala Ala Gly Val Ala Glu Gln Phe Ala Ile Ala Glu Ala Lys 140 145 150

Leu Arg Ala Trp Ser Ser Val Asp Gly Glu Asp Ser Thr Asp Asp 155 160 165

Ser Tyr Asp Glu Asp Phe Ala Gly Gly Met Asp Thr Asp Met Ala 170 175 180

Gly Gln Leu Pro Leu Gly Pro His Leu Gln Asp Leu Phe Thr Gly
185 190 195

His Arg Phe Ser Arg Pro Val Arg Gln Gly Ser Val Glu Pro Glu

Ser Asp Cys Ser Gln Thr Val Ser Pro Asp Thr Leu Cys Ser Ser 215 220 225

Leu Cys Ser Leu Glu Asp Gly Leu Leu Gly Ser Pro Ala Arg Leu 230 235 240

<400> 36

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                 275
Pro Ala Glu Glu Pro Ala Pro Cys Lys Asp Cys Gln Pro Leu
                 290
Cys Pro Pro Leu Thr Gly Ser Trp Glu Arg Gln Arg Gln Ala Ser
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Asp Leu Ala Ser Ser Gly Val Val Ser Leu Asp Glu Asp Glu Ala
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Glu Pro Glu Glu Gln
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tactagccat tgtgagcttc agtttcttca tctgcaaaat gggcataata 250
caatctattc ttgccacatc aagggattgt tattccttta aaaaaaaacc 300
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<210> 41

<211> 334

<212> PRT

<213> Homo sapiens

<400> 41

Met Leu Ala Leu Ala Lys Ile Leu Leu Ile Ser Thr Leu Phe Tyr 1 5 10 15

Ser Leu Leu Ser Gly Ser His Gly Lys Glu Asn Gln Asp Ile Asn 20 25 30

Thr Thr Gln Asn Ile Ala Glu Val Phe Lys Thr Met Glu Asn Lys 35 40 45

Pro Ile Ser Leu Glu Ser Glu Ala Asn Leu Asn Ser Asp Lys Glu 50 55 60

Asn Ile Thr Thr Ser Asn Leu Lys Ala Ser His Ser Pro Pro Leu 65 70 75

Asn Leu Pro Asn Asn Ser His Gly Ile Thr Asp Phe Ser Ser Asn 80 85 90

Ser Ser Ala Glu His Ser Leu Gly Ser Leu Lys Pro Thr Ser Thr 95 100 105

Ile Ser Thr Ser Pro Pro Leu Ile His Ser Phe Val Ser Lys Val

Pro Trp Asn Ala Pro Ile Ala Asp Glu Asp Leu Pro Ile Ser 125 130 135

Ala His Pro Asn Ala Thr Pro Ala Leu Ser Ser Glu Asn Phe Thr $140 \,$ $145 \,$ $150 \,$

Trp Ser Leu Val Asn Asp Thr Val Lys Thr Pro Asp Asn Ser Ser 155 160 165

Ile Thr Val Ser Ile Leu Ser Ser Glu Pro Thr Ser Pro Ser Val 170 175 180

Thr Pro Leu Ile Val Glu Pro Ser Gly Trp Leu Thr Thr Asn Ser 185 190 195

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Asp Ser Phe Thr Gly Phe Thr Pro Tyr Gln Glu Lys Thr Thr Leu
Gln Pro Thr Leu Lys Phe Thr Asn Asn Ser Lys Leu Phe Pro Asn
                                     220
                215
Thr Ser Asp Pro Gln Lys Glu Asn Arg Asn Thr Gly Ile Val Phe
                230
Gly Ala Ile Leu Gly Ala Ile Leu Gly Val Ser Leu Leu Thr Leu
                245
Val Gly Tyr Leu Leu Cys Gly Lys Arg Lys Thr Asp Ser Phe Ser
                260
                                     265
His Arg Arg Leu Tyr Asp Asp Arg Asn Glu Pro Val Leu Arg Leu
                                                         285
                275
Asp Asn Ala Pro Glu Pro Tyr Asp Val Ser Phe Gly Asn Ser Ser
Tyr Tyr Asn Pro Thr Leu Asn Asp Ser Ala Met Pro Glu Ser Glu
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Glu Asn Ala Arg Asp Gly Ile Pro Met Asp Asp Ile Pro Pro Leu
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Arg Thr Ser Val

<210> 42 <211> 1594 <212> DNA

<213> Homo sapiens

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cccctaccgc cgtgcaaaag gaggaggcgc ggcaagacgt ggaggccctc 150
ctgagccgca cggtcagaac tcagatactg accggcaagg agctccgagt 200
tgccacccag gaaaaagagg gctcctctgg gagatgtatg cttactctct 250
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tacaagtact tcatgcccaa gagcaccatt taccgtggag agatgtgctt 350
ttttgattct gaggatcctg caaattccct tcgtggagga gagcctaact 400
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atcattgatg tgcctgtccc cagtttctct gatagtgacc ctgcagcaat 500
tattcatgac tttgaaaagg gaatgactgc ttacctggac ttgttgctgg 550

ggaactgcta tctgatgccc ctcaatactt ctattgttat gcctccaaaa 600 aatctggtag agctctttgg caaactggcg agtggcagat atctgcctca 650 aacttatqtq qttcqaqaaq acctaqttqc tqtqqaqgaa attcqtgatg 700 ttagtaacct tggcatcttt atttaccaac tttgcaataa cagaaagtcc 750 ttccgccttc gtcgcagaga cctcttgctg ggtttcaaca aacgtgccat 800 tgataaatgc tggaagatta gacacttccc caacgaattt attgttgaga 850 ccaagatctg tcaagagtaa gaggcaacag atagagtgtc cttggtaata 900 agaagtcaga gatttacaat atgactttaa cattaaggtt tatgggatac 950 tcaagatatt tactcatgca tttactctat tgcttatgct ttaaaaaaag 1000 qaaaaaaaaa aaaactacta accactqcaa qctcttqtca aattttagtt 1050 taattggcat tgcttgtttt ttgaaactga aattacatga gtttcatttt 1100 ttctttgcat ttatagggtt tagatttctg aaagcagcat gaatatatca 1150 cctaacatcc tgacaataaa ttccatccgt tgtttttttt gtttgtttgt 1200 tttttctttt cctttaagta agctctttat tcatcttatg gtggagcaat 1250 tttaaaattt gaaatatttt aaattgtttt tgaacttttt gtgtaaaata 1300 tatcagatct caacattgtt ggtttctttt gtttttcatt ttgtacaact 1350 ttcttgaatt tagaaattac atctttgcag ttctgttagg tgctctgtaa 1400 ttaacctgac ttatatgtga acaattttca tgagacagtc atttttaact 1450 aatgcagtga ttctttctca ctactatctg tattgtggaa tgcacaaaat 1500 tgtgtaggtg ctgaatgctg taaggagttt aggttgtatg aattctacaa 1550

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- <211> 263
- <212> PRT
- <213> Homo sapiens
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- Glu Ala Arg Gln Asp Val Glu Ala Leu Leu Ser Arg Thr Val Arg 20 25 30
- Thr Gln Ile Leu Thr Gly Lys Glu Leu Arg Val Ala Thr Gln Glu 35 40 45
- Lys Glu Gly Ser Ser Gly Arg Cys Met Leu Thr Leu Leu Gly Leu

50 55 60

Ser Phe Ile Leu Ala Gly Leu Ile Val Gly Gly Ala Cys Ile Tyr
65 70 75

Lys Tyr Phe Met Pro Lys Ser Thr Ile Tyr Arg Gly Glu Met Cys
80 85 90

Phe Phe Asp Ser Glu Asp Pro Ala Asn Ser Leu Arg Gly Glu 95 100 105

Pro Asn Phe Leu Pro Val Thr Glu Glu Ala Asp Ile Arg Glu Asp 110 115 120

Asp Asn Ile Ala Ile Ile Asp Val Pro Val Pro Ser Phe Ser Asp 125 130 135

Ser Asp Pro Ala Ala Ile Ile His Asp Phe Glu Lys Gly Met Thr 140 145 150

Ala Tyr Leu Asp Leu Leu Leu Gly Asn Cys Tyr Leu Met Pro Leu 155 160 165

Asn Thr Ser Ile Val Met Pro Pro Lys Asn Leu Val Glu Leu Phe 170 175 180

Gly Lys Leu Ala Ser Gly Arg Tyr Leu Pro Gln Thr Tyr Val Val 185 190 195

Arg Glu Asp Leu Val Ala Val Glu Glu Ile Arg Asp Val Ser Asn 200 205 210

Leu Gly Ile Phe Ile Tyr Gln Leu Cys Asn Asn Arg Lys Ser Phe 215 220 225

Arg Leu Arg Arg Arg Asp Leu Leu Leu Gly Phe Asn Lys Arg Ala 230 235 240

Ile Asp Lys Cys Trp Lys Ile Arg His Phe Pro Asn Glu Phe Ile 245 250 255

Val Glu Thr Lys Ile Cys Gln Glu 260

<210> 44

<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial sequence

<222> 1-24

<223> Synthetic construct.

<400> 44

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<210> 45

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    <220>
    <221> Artificial sequence
    <222> 1-20
    <223> Synthetic construct.
    <400> 45
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    <210> 46
    <211> 26
    <212> DNA
    <213> Artificial
    <220>
    <221> Artificial sequence
    <222> 1-26
    <223> Synthetic construct.
    <400> 46
     caggatetee tettgeagte tgeage 26
<210> 47
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<220>
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<222> 1-28
    <223> Synthetic construct.
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Lå
    <400> 47
E. .
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    <211> 25
    <212> DNA
    <213> Artificial
    <220>
    <221> Artificial sequence
    <222> 1-25
    <223> Synthetic construct.
    <400> 48
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    <213> Homo sapiens
    <400> 49
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<211> 20

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caagcacccc cggcctgggg gtgagtttct catcccgcta ctgctgctgg 1550 gatcaggttg aatgaatgga actetteetg tetggeetee aaagcageet 1600 agaagctgag gggctgtgtt tgaggggacc tccaccctgg ggaagtccga 1650 ggggctgggg aagggtttct gacgcccagc ctggagcagg ggggccctgg 1700 ccacccctq ttqctcacac attqtctggc agcctgtgtc cacaatattc 1750 gtcagtcctc gacagggagc ctgggctccg tcctgcttta gggaggctct 1800 ggcaggaggt cctctcccc atccctccat ctggggctcc cccaacctct 1850 qcacagctct ccaggtgctg agatataatg caccagcaca ataaaccttt 1900 aaaaaaaaa aaaaaaaga 1969

<210> 50 <211> 283 <212> PRT

<213> Homo sapiens

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Leu Asp Ser Ser Arg Gln Leu Gln Ala Asp Ile Leu Ala Ala Thr
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Gln Asn Leu Lys Ser Pro Thr Arg Ala Ala Leu Gly Gly Gly Asp
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Gly Ala Arg Met Val Glu Gly Arg Gly Ala Glu Glu Glu Lys
                200
Gly Ser Gln Glu Gly Asp Gln Glu Val Gln Gly His Gly Val Pro
                                                        225
                215
Val Glu Thr Pro Glu Ala Gln Glu Glu Pro Cys Ser Gly Val Leu
                230
Glu Gly Ala Val Val Ala Gly Glu Gly Gln Gly Glu Leu Glu Gly
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Ser Leu Leu Ala Gln Glu Ala Gln Gly Pro Val Gly Pro Pro
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Glu Ser Pro Cys Ala Cys Ser Ser Val His Pro Ser Val
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<210> 51 <211> 1734 <212> DNA

<213> Homo sapiens

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 agacactctg gagagagagg gggctgggca gagatgaagt tccaggggcc 200
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<210> 52

<211> 440

<212> PRT

<213> Homo sapiens

<400> 52

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Leu Gly Ser Gly Glu Ala Gly Pro Leu Gln Ser Gly Glu Glu Ser $20 \hspace{1cm} 25 \hspace{1cm} 30 \hspace{1cm}$

Thr Gly Thr Asn Ile Gly Glu Ala Leu Gly His Gly Leu Gly Asp 35 40 45

Ala Leu Ser Glu Gly Val Gly Lys Ala Ile Gly Lys Glu Ala Gly

50 55 60

Gly Ala Ala Gly Ser Lys Val Ser Glu Ala Leu Gly Gln Gly Thr
65 70 75

Arg Glu Ala Val Gly Thr Gly Val Arg Gln Val Pro Gly Phe Gly 80 85 90

Ile Arg His Gly Ala Asp Ala Val Arg Gly Ser Trp Gln Gly Val 125 130 135

Phe Gly Ser Gln Gly Gly Leu Gly Gly Gln Gly Gln Gly Asn Pro 155 160 165

Gly Gly Leu Gly Thr Pro Trp Val His Gly Tyr Pro Gly Asn Ser 170 175 180

Ala Gly Ser Phe Gly Met Asn Pro Gln Gly Ala Pro Trp Gly Gln 185 190 195

Gly Gly Asn Gly Gly Pro Pro Asn Phe Gly Thr Asn Thr Gln Gly 200 205 210

Ala Val Ala Gln Pro Gly Tyr Gly Ser Val Arg Ala Ser Asn Gln
215
220
225

Asn Glu Gly Cys Thr Asn Pro Pro Pro Ser Gly Ser Gly Gly 230 235 240

Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gln Ser Gly Ser Ser 245 250 255

Gly Ser Gly Ser Asn Gly Asp Asn Asn Gly Ser Ser Ser Gly 260 265 270

Gly Ser Ser Ser Gly Ser Ser Gly Ser Ser Ser Gly Gly Ser 275 280 285

Ser Gly Gly Ser Ser Gly Gly Ser Ser Gly Asn Ser Gly Gly Ser 290 295 300

Arg Gly Asp Ser Gly Ser Glu Ser Ser Trp Gly Ser Ser Thr Gly 305 310 315

Ser Ser Ser Gly Asn His Gly Gly Ser Gly Gly Gly Asn Gly His 320 325 330

Lys Pro Gly Cys Glu Lys Pro Gly Asn Glu Ala Arg Gly Ser Gly 335 340 345

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Glu Ser Gly Ile Gln Gly Phe Arg Gly Gln Gly Val Ser Ser Asn 360

Met Arg Glu Ile Ser Lys Glu Gly Asn Arg Leu Leu Gly Gly Ser 375

Gly Asp Asn Tyr Arg Gly Gln Gly Ser Ser Trp Gly Ser Gly 390

Gly Asp Ala Val Gly Gly Val Asn Thr Val Asn Ser Glu Thr Ser 405

Pro Gly Met Phe Asn Phe Asp Thr Phe Trp Lys Asn Phe Lys Ser 420

Lys Leu Gly Phe Ile Asn Trp Asp Ala Ile Asn Lys Asp Gln Arg 435
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Ser Ser Arg Ile Pro 440

<210> 53 <211> 3580 <212> DNA

<213> Homo sapiens

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<210> 54

<211> 280

<212> PRT

<213> Homo sapiens

<400> 54 Met Cys Phe Leu Asn Lys Leu Leu Leu Ala Val Leu Gly Trp Leu Phe Gln Ile Pro Thr Val Pro Glu Asp Leu Phe Phe Leu Glu Glu Gly Pro Ser Tyr Ala Phe Glu Val Asp Thr Val Ala Pro Glu His Gly Leu Asp Asn Ala Pro Val Val Asp Gln Gln Leu Leu Tyr Thr Cys Cys Pro Tyr Ile Gly Glu Leu Arg Lys Leu Leu Ala Ser Trp Val Ser Gly Ser Ser Gly Arg Ser Gly Gly Phe Met Arg Lys Ile Thr Pro Thr Thr Thr Ser Leu Gly Ala Gln Pro Ser Gln Thr Ser Gln Gly Leu Gln Ala Gln Leu Ala Gln Ala Phe Phe His 115 110 Asn Gln Pro Pro Ser Leu Arg Arg Thr Val Glu Phe Val Ala Glu Arg Ile Gly Ser Asn Cys Val Lys His Ile Lys Ala Thr Leu Val Ala Asp Leu Val Arg Gln Ala Glu Ser Leu Leu Gln Glu Gln Leu 155 Val Thr Gln Gly Glu Glu Gly Gly Asp Pro Ala Gln Leu Leu Glu Ile Leu Cys Ser Gln Leu Cys Pro His Gly Ala Gln Ala Leu Ala Leu Gly Arg Glu Phe Cys Gln Arg Lys Ser Pro Gly Ala Val Arg Ala Leu Leu Pro Glu Glu Thr Pro Ala Ala Val Leu Ser Ser Ala Glu Asn Ile Ala Val Gly Leu Ala Thr Glu Lys Ala Cys Ala Trp Leu Ser Ala Asn Ile Thr Ala Leu Ile Arg Arg Glu Val Lys Ala Ala Val Ser Arg Thr Leu Arg Ala Gln Gly Pro Glu Pro Ala Ala 260 265 Arg Gly Glu Arg Arg Gly Cys Ser Arg Ala

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<213> Homo sapiens

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<210> 56

<211> 299

<212> PRT

<213> Homo sapiens

<400> 56

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20 25 30

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Pro Val Asn Leu Lys Lys Trp Ser Ile Thr Asp Gly Tyr Val Pro
Ile Leu Gly Asn Lys Thr Leu Pro Ser Arg Cys His Gln Cys Val
Ile Val Ser Ser Ser His Leu Leu Gly Thr Lys Leu Gly Pro
Glu Ile Glu Arg Ala Glu Cys Thr Ile Arg Met Asn Asp Ala Pro
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Thr Thr Gly Tyr Ser Ala Asp Val Gly Asn Lys Thr Thr Tyr Arg
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Val Val Ala His Ser Ser Val Phe Arg Val Leu Arg Arg Pro Gln
Glu Phe Val Asn Arg Thr Pro Glu Thr Val Phe Ile Phe Trp Gly
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Pro Pro Ser Lys Met Gln Lys Pro Gln Gly Ser Leu Val Arg Val
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Ile Gln Arg Ala Gly Leu Val Phe Pro Asn Met Glu Ala Tyr Ala
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Val Ser Pro Gly Arg Met Arg Gln Phe Asp Asp Leu Phe Arg Gly
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Glu Thr Gly Lys Asp Arg Glu Lys Ser His Ser Trp Leu Ser Thr
Gly Trp Phe Thr Met Val Ile Ala Val Glu Leu Cys Asp His Val
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His Val Tyr Gly Met Val Pro Pro Asn Tyr Cys Ser Gln Arg Pro
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Arg Leu Gln Arg Met Pro Tyr His Tyr Tyr Glu Pro Lys Gly Pro
Asp Glu Cys Val Thr Tyr Ile Gln Asn Glu His Ser Arg Lys Gly
Asn His His Arg Phe Ile Thr Glu Lys Arg Val Phe Ser Ser Trp
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<210> 57

<211> 4277

<212> DNA

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<212> PRT <213> Homo sapiens

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Val Thr Gly Tyr Asn Lys Thr Arg Phe Leu Leu Ser Asn Leu Leu Ile Asp Thr Thr Ser Glu Glu Asp Ser Gly Thr Tyr Arg Cys Met 290 Ala Asp Asn Gly Val Gly Gln Pro Gly Ala Ala Val Ile Leu Tyr Asn Val Gln Val Phe Glu Pro Pro Glu Val Thr Met Glu Leu Ser 320 330 Gln Leu Val Ile Pro Trp Gly Gln Ser Ala Lys Leu Thr Cys Glu 335 Val Arg Gly Asn Pro Pro Pro Ser Val Leu Trp Leu Arg Asn Ala 350 Val Pro Leu Ile Ser Ser Gln Arg Leu Arg Leu Ser Arg Ala Leu Arg Val Leu Ser Met Gly Pro Glu Asp Glu Gly Val Tyr Gln Cys Met Ala Glu Asn Glu Val Gly Ser Ala His Ala Val Val Gln Leu Arg Thr Ser Arg Pro Ser Ile Thr Pro Arg Leu Trp Gln Asp 410 Ala Glu Leu Ala Thr Gly Thr Pro Pro Val Ser Pro Ser Lys Leu Gly Asn Pro Glu Gln Met Leu Arg Gly Gln Pro Ala Leu Pro Arg Pro Pro Thr Ser Val Gly Pro Ala Ser Pro Lys Cys Pro Gly Glu Lys Gly Gln Gly Ala Pro Ala Glu Ala Pro Ile Ile Leu Ser Ser Pro Arg Thr Ser Lys Thr Asp Ser Tyr Glu Leu Val Trp Arg Pro Arg His Glu Gly Ser Gly Arg Ala Pro Ile Leu Tyr Tyr Val Val Lys His Arg Lys Gln Val Thr Asn Ser Ser Asp Asp Trp Thr Ile 525 Ser Gly Ile Pro Ala Asn Gln His Arg Leu Thr Leu Thr Arg Leu Asp Pro Gly Ser Leu Tyr Glu Val Glu Met Ala Ala Tyr Asn Cys 550 555 Ala Gly Glu Gly Gln Thr Ala Met Val Thr Phe Arg Thr Gly Arg

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His	Gly	Arg	Leu	Ser 605		Pro	Glu	Ala	Pro 610	Asp	Arg	Pro	Thr	Ile 615
Ser	Thr	Ala	Ser	Glu 620		Ser	Val	Tyr	Val 625		Trp	Ile	Pro	Arg 630
Gly	Aşn	Gly	Gly	Phe 635	Pro	Ile	Gln	Ser	Phe 640	Arg	Val	Glu	Tyr	Lys 645
Lys	Leu	Lys	Lys	Val 650	Gly	Asp	Trp	Ile	Leu 655	Ala	Thr	Ser	Ala	Il∈ 660
Pro	Pro	Ser	Arg	Leu 665	Ser	Val	Glu	Ile	Thr 670	Gly	Leu	Glu	Lys	Gl _y 675
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Ser	Glu	Pro	Ser	Ala 695	Pro	Ser	Arg	Pro	Tyr 700	Val	Val	Ser	Gly	Tyr 705
Ser	Gly	Arg	Val	Tyr 710	Glu	Arg	Pro	Val	Ala 715	Gly	Pro	Tyr	Ile	Thr 720
Phe	Thr	Asp	Ala	Val 725	Asn	Glu	Thr	Thr	Ile 730	Met	Leu	Lys	Trp	Met 735
Tyr	Ile	Pro	Ala	Ser 740	Asn	Asn	Asn	Thr	Pro 745	Ile	His	Gly	Phe	Tyr 750
Ile	Tyr	Tyr	Arg	Pro 755	Thr	Asp	Ser	Asp	Asn 760	Asp	Ser	Asp	Tyr	Lys 765
Lys	Asp	Met	Val	Glu 770	Gly	Asp	Lys	Tyr	Trp 775	His	Ser	Ile	Ser	His 780
Leu	Gln	Pro	Glu	Thr 785	Ser	Tyr	Asp	Ile	Lys 790	Met	Gln	Cys	Phe	Asn 795
Glu	Gly	Gly	Glu	Ser 800	Glu	Phe	Ser	Asn	Val 805	Met	Ile	Cys	Glu	Thr 810
Lys	Ala	Arg	Lys	Ser 815	Ser	Gly	Gln	Pro	Gly 820	Arg	Leu	Pro	Pro	Pro 825
Thr	Leu	Ala	Pro	Pro 830	Gln	Pro	Pro	Leu	Pro 835	Glu	Thr	Ile	Glu	Arg 840
Pro	Val	Gly	Thr	Gly 845	Ala	Met	Val	Ala	Arg 850	Ser	Ser	Asp	Leu	Pro 855

Tyr Leu Ile Val Gly Val Val Leu Gly Ser Ile Val Leu Ile Ile Val Thr Phe Ile Pro Phe Cys Leu Trp Arg Ala Trp Ser Lys Gln Lys His Thr Thr Asp Leu Gly Phe Pro Arg Ser Ala Leu Pro Pro 895 Ser Cys Pro Tyr Thr Met Val Pro Leu Gly Gly Leu Pro Gly His 905 910 915 Gln Ala Ser Gly Gln Pro Tyr Leu Ser Gly Ile Ser Gly Arg Ala 920 925 Cys Ala Asn Gly Ile His Met Asn Arg Gly Cys Pro Ser Ala Ala Val Gly Tyr Pro Gly Met Lys Pro Gln Gln His Cys Pro Gly Glu Leu Gln Gln Ser Asp Thr Ser Ser Leu Leu Arg Gln Thr His Leu Gly Asn Gly Tyr Asp Pro Gln Ser His Gln Ile Thr Arg Gly Pro Lys Ser Ser Pro Asp Glu Gly Ser Phe Leu Tyr Thr Leu Pro Asp Asp Ser Thr His Gln Leu Leu Gln Pro His His Asp Cys Cys 1010 1015 Gln Arg Gln Glu Gln Pro Ala Ala Val Gly Gln Ser Gly Val Arg 1025 Arg Ala Pro Asp Ser Pro Val Leu Glu Ala Val Trp Asp Pro Pro 1040 1045 Phe His Ser Gly Pro Pro Cys Cys Leu Gly Leu Val Pro Val Glu Glu Val Asp Ser Pro Asp Ser Cys Gln Val Ser Gly Gly Asp Trp Cys Pro Gln His Pro Val Gly Ala Tyr Val Gly Gln Glu Pro Gly Met Gln Leu Ser Pro Gly Pro Leu Val Arg Val Ser Phe Glu Thr 1100 1110 Pro Pro Leu Thr Ile 1115

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<211> 25

<212> DNA

<213> Artificial

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<222> 1-25
<223> Synthetic construct.
<400> 59
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<210> 60
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-24
<223> Synthetic construct.
<400> 60
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<210> 61
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<223> Synthetic construct.
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<211> 1661
<212> DNA
<213> Homo sapiens
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<221> unsure
<222> 678
<223> unknown base
<400> 62
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<210> 63

<211> 487

<212> PRT

<213> Homo sapiens

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<221> unsure
<222> 196, 386
<223> unknown amino acid
<400> 63
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Gln Pro Val Thr Arg Ala Glu Thr Thr Pro Gly Ala Pro Arg Ala
Leu Ser Thr Leu Gly Ser Pro Ser Leu Phe Thr Thr Pro Gly Val
Pro Ser Ala Leu Thr Thr Pro Gly Leu Thr Thr Pro Gly Thr Pro
Lys Thr Leu Asp Leu Arg Gly Arg Ala Gln Ala Leu Met Arg Ser
Phe Pro Leu Val Asp Gly His Asn Asp Leu Pro Gln Val Leu Arg
Gln Arg Tyr Lys Asn Val Leu Gln Asp Val Asn Leu Arg Asn Phe
Ser His Gly Gln Thr Ser Leu Asp Arg Leu Arg Asp Gly Leu Val
Gly Ala Gln Phe Trp Ser Ala Ser Val Ser Cys Gln Ser Gln Asp
Gln Thr Ala Val Arg Leu Ala Leu Glu Gln Ile Asp Leu Ile His
Arg Met Cys Ala Ser Tyr Ser Glu Leu Glu Leu Val Thr Ser Ala
Glu Gly Leu Asn Ser Ser Gln Lys Leu Ala Cys Leu Ile Gly Val
                185
Xaa Gly Gly His Ser Leu Asp Ser Ser Leu Ser Val Leu Arg Ser
Phe Tyr Val Leu Gly Val Arg Tyr Leu Thr Leu Thr Phe Thr Cys
                215
Ser Thr Pro Trp Ala Glu Ser Ser Thr Lys Phe Arg His His Met
               230
Tyr Thr Asn Val Ser Gly Leu Thr Ser Phe Gly Glu Lys Val Val
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Glu Glu Leu Asn Arg Leu Gly Met Met Ile Asp Leu Ser Tyr Ala

<400> 64

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Val	Ile	Phe	Ser	His 290	Ser	Ala	Ala	Arg	Ala 295	Val	Cys	Asp	Asn	Leu 300
Leu	Asn	Val	Pro	Asp 305	Asp	Ile	Leu	Gln	Leu 310	Leu	Lys	Asn	Gly	Gly 315
Ile	Val	Met	Val	Thr 320	Leu	Ser	Met	Gly	Val 325	Leu	Gln	Суз	Asn	Leu 330
Leu	Ala	Asn	Val	Ser 335	Thr	Val	Ala	Asp	His 340	Phe	Asp	His	Ile	Arg 345
Ala	Val	Ile	Gly	Ser 350	Glu	Phe	Ile	Gly	Ile 355	Gly	Gly	Asn	Tyr	Asp 360
Gly	Thr	Gly	Arg	Phe 365	Pro	Gln	Gly	Leu	Glu 370	Asp	Val	Ser	Thr	Tyr 375
Pro	Val	Leu	Ile	Glu 380	Glu	Leu	Leu	Ser	Arg 385	Xaa	Trp	Ser	Glu	Glu 390
Glu	Leu	Gln	Gly	Val 395	Leu	Arg	Gly	Asn	Leu 400	Leu	Arg	Val	Phe	Arg 405
Gln	Val	Glu	Lys	Val 410	Arg	Glu	Glu	Ser	Arg 415	Ala	Gln	Ser	Pro	Val 420
Glu	Ala	Glu	Phe	Pro 425	Tyr	Gly	Gln	Leu	Ser 430	Thr	Ser	Cys	His	Ser 435
His	Leu	Val	Pro	Gln 440	Asn	Gly	His	Gln	Ala 445	Thr	His	Leu	Glu	Val 450
Thr	Lys	Gln	Pro	Thr 455	Asn	Arg	Val	Pro	Trp 460	Arg	Ser	Ser	Asn	Ala 465
Ser	Pro	Tyr	Leu	Val 470	Pro	Gly	Leu	Val	Ala 475	Ala	Ala	Thr	Ile	Pro 480
Thr	Phe	Thr	Gln	Trp 485	Leu	Cys								
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gcccatgcca gtgcctggcc atgacgtgga ggcctactgc ctgctgtgcg 350
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acaatgagga ggagaatgag gatgctcgct ctatggcagc agctgctgca 550
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tccctcgggg gaccccgagc aaacacagtc ctggagcgtg tggaaggtgc 600

ccagcagcgg tggaagctgc aggtgcagga gcagcggaag acagtcttcg 650 atcggcacaa gatgctcagc tagatgggct ggtgtggttg ggtcaaggcc 700 ccaacaccat ggctgccagc ttccaggctg gacaaagcag ggggctactt 750 ctcccttccc tcggttccag tcttcccttt aaaagcctgt ggcatttttc 800 ctccttctcc ctaactttag aaatgttgta cttggctatt ttgattaggg 850 aagagggatg tggtctctga tctctgttgt cttcttgggt ctttggggtt 900 qaaqqqaqqq qqaaqqcaqq ccaqaaqqqa atqqaqacat tcqaqqcqqc 950 ctcaggagtg gatgcgatct gtctctcctg gctccactct tgccgccttc 1000 cagetetgag tettgggaat gttgttacee ttggaagata aagetgggte 1050 ttcaggaact cagtgtctgg gaggaaagca tggcccagca ttcagcatgt 1100 gttcctttct gcagtggttc ttatcaccac ctccctccca gccccggcgc 1150 ctcagcccca gccccagctc cagccctgag gacagctctg atgggagagc 1200 tgggccccct gagcccactg ggtcttcagg gtgcactgga agctggtgtt 1250 cgctgtcccc tgtgcacttc tcgcactggg gcatggagtg cccatgcata 1300 ctctgctgcc ggtcccctca cctgcacttg aggggtctgg gcagtccctc 1350 ctctccccag tgtccacagt cactgagcca gacggtcggt tggaacatga 1400 gactcgaggc tgagcgtgga tctgaacacc acagcccctg tacttgggtt 1450 gcctcttgtc cctqaacttc gttgtaccag tgcatggaga gaaaattttg 1500 tectettgte ttagagttgt gtgtaaatca aggaageeat cattaaattg 1550 ttttatttct ctca 1564

<210> 68

<211> 183

<212> PRT

<213> Homo sapiens

<400> 68

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Pro Pro Ala Glu Ala Asn Lys Ser Ser Glu Asp Ile Arg Cys Lys 20 25 30

Cys Ile Cys Pro Pro Tyr Arg Asn Ile Ser Gly His Ile Tyr Asn 35 40 45

Gln Asn Val Ser Gln Lys Asp Cys Asn Cys Leu His Val Val Glu
50 55 60

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Pro Met Pro Val Pro Gly His Asp Val Glu Ala Tyr Cys Leu Leu 75

Cys Glu Cys Arg Tyr Glu Glu Arg Ser Thr Thr Thr Ile Lys Val 80

Ile Ile Val Ile Tyr Leu Ser Val Val Gly Ala Leu Leu Leu Tyr 105

Met Ala Phe Leu Met Leu Val Asp Pro Leu Ile Arg Lys Pro Asp 110
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Ala Tyr Thr Glu Gln Leu His Asn Glu Glu Glu Asn Glu Asp Ala 125 130 135

Arg Ser Met Ala Ala Ala Ala Ala Ser Leu Gly Gly Pro Arg Ala 140 145 150

Asn Thr Val Leu Glu Arg Val Glu Gly Ala Gln Gln Arg Trp Lys 155 160 165

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Met Leu Ser

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<213> Homo sapiens

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<210> 70

<211> 259

<212> PRT

<213> Homo sapiens

<400> 70

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1 5 10 15

Leu Leu Ala Ala Val Leu Met Val Glu Ser Ser Gln Ile Gly Ser $20 \hspace{1cm} 25 \hspace{1cm} 30$

Ser Arg Ala Lys Leu Asn Ser Ile Lys Ser Ser Leu Gly Glu 35 40 45

Thr Pro Gly Gln Ala Ala Asn Arg Ser Ala Gly Met Tyr Gln Gly Leu Ala Phe Gly Gly Ser Lys Lys Gly Lys Asn Leu Gly Gln Ala Tyr Pro Cys Ser Ser Asp Lys Glu Cys Glu Val Gly Arg Tyr Cys His Ser Pro His Gln Gly Ser Ser Ala Cys Met Val Cys Arg Arg 100 105 95 Lys Lys Lys Arg Cys His Arg Asp Gly Met Cys Cys Pro Ser Thr 110 Arg Cys Asn Asn Gly Ile Cys Ile Pro Val Thr Glu Ser Ile Leu 125 Thr Pro His Ile Pro Ala Leu Asp Gly Thr Arg His Arg Asp Arg Asn His Gly His Tyr Ser Asn His Asp Leu Gly Trp Gln Asn Leu Gly Arg Pro His Thr Lys Met Ser His Ile Lys Gly His Glu Gly 180 Asp Pro Cys Leu Arg Ser Ser Asp Cys Ile Glu Gly Phe Cys Cys Ala Arg His Phe Trp Thr Lys Ile Cys Lys Pro Val Leu His Gln Gly Glu Val Cys Thr Lys Gln Arg Lys Lys Gly Ser His Gly Leu Glu Ile Phe Gln Arg Cys Asp Cys Ala Lys Gly Leu Ser Cys Lys Val Trp Lys Asp Ala Thr Tyr Ser Ser Lys Ala Arg Leu His Val 255

Cys Gln Lys Ile

<210> 71

<211> 1809

<212> DNA

<213> Homo sapiens

<400> 71

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<210> 72

<211> 363

<212> PRT

<213> Homo sapiens

<400> 72

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Cys Ser Phe Ile Pro Leu Leu Lys Ser Ser Val Leu Gly Ser Gly 20 25 30

Phe Gly Glu Leu Ala Pro Pro Lys Met Ala Asn Ile Thr Ser Ser 35 40 45

Gln Ile Leu Asp Gln Leu Lys Ala Pro Ser Leu Gly Gln Phe Thr 50 55 60

Thr Thr Pro Ser Thr Gln Gln Asn Ser Thr Ser His Pro Thr Thr 65 70 75

Thr Thr Ser Trp Asp Leu Lys Pro Pro Thr Ser Gln Ser Ser Val 80 85 90

Leu Ser His Leu Asp Phe Lys Ser Gln Pro Glu Pro Ser Pro Val 95 100 105

Leu Ser Gln Leu Ser Gln Arg Gln Gln His Gln Ser Gln Ala Val 110 115 120

Thr Val Pro Pro Pro Gly Leu Glu Ser Phe Pro Ser Gln Ala Lys 125 130 135

Leu Arg Glu Ser Thr Pro Gly Asp Ser Pro Ser Thr Val Asn Lys 140 145 150

Leu Leu Gln Leu Pro Ser Thr Thr Ile Glu Asn Ile Ser Val Ser 155 160 165

Val His Gln Pro Gln Pro Lys His Ile Lys Leu Ala Lys Arg Arg 170 175 180

Ile Pro Pro Ala Ser Lys Ile Pro Ala Ser Ala Val Glu Met Pro 185 190 195

Gly Ser Ala Asp Val Thr Gly Leu Asn Val Gln Phe Gly Ala Leu $200 \hspace{1cm} 205 \hspace{1cm} 210 \hspace{1cm}$

Glu Phe Gly Ser Glu Pro Ser Leu Ser Glu Phe Gly Ser Ala Pro $215 \hspace{1.5cm} 220 \hspace{1.5cm} 225$

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 Ser Leu Ser Glu Pro Leu Asn Thr Ser Leu Ser Met Thr Ser Ala
                 245
Val Gln Asn Ser Thr Tyr Thr Thr Ser Val Ile Thr Ser Cys Ser
                                     265
                 260
 Leu Thr Ser Ser Ser Leu Asn Ser Ala Ser Pro Val Ala Met Ser
                 275
                                     280
Ser Ser Tyr Asp Gln Ser Ser Val His Asn Arg Ile Pro Tyr Gln
 Ser Pro Val Ser Ser Ser Glu Ser Ala Pro Gly Thr Ile Met Asn
 Gly His Gly Gly Gly Arg Ser Gln Gln Thr Leu Asp Ser Lys Tyr
 Ser Ser Lys Leu Leu Ser Trp Leu Val Pro Thr Lys Gln Arg
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Leu Ile Arg
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<223> Synthetic construct.
<400> 73
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<210> 74
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<210> 75
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<211> 1989
<212> DNA
<213> Homo sapiens
<400> 76
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 gccacaacgt catcaatgtc atcgtccccq agagccgagc ccacttcttc 750
 cagcagetgg getacgtget ggccacgetg etgetettea teetgetact 800
 ggtcactgtc ctcctggccg cccgcaggcg ccgcggaggc tacgaatact 850
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gccccctgcc tgccaagtac atcgacctag acaaagggtt ccggaaggag 1050

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<210> 77

<211> 341

<212> PRT

<213> Homo sapiens

<400> 77

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Ala Gly Leu Tyr Thr Cys Asn Leu His His His Tyr Cys His Leu 35 40 45

Tyr Glu Ser Leu Ala Val Arg Leu Glu Val Thr Asp Gly Pro Pro 50 55 60

Ala Thr Pro Ala Tyr Trp Asp Gly Glu Lys Glu Val Leu Ala Val 65 70 75

Ala Arg Gly Ala Pro Ala Leu Leu Thr Cys Val Asn Arg Gly His Val Trp Thr Asp Arg His Val Glu Glu Ala Gln Gln Val Val His Trp Asp Arg Gln Pro Pro Gly Val Pro His Asp Arg Ala Asp Arg 115 Leu Leu Asp Leu Tyr Ala Ser Gly Glu Arg Arg Ala Tyr Gly Pro 125 130 Leu Phe Leu Arg Asp Arg Val Ala Val Gly Ala Asp Ala Phe Glu 140 Arg Gly Asp Phe Ser Leu Arg Ile Glu Pro Leu Glu Val Ala Asp Glu Gly Thr Tyr Ser Cys His Leu His His His Tyr Cys Gly Leu His Glu Arg Arg Val Phe His Leu Thr Val Ala Glu Pro His Ala Glu Pro Pro Pro Arg Gly Ser Pro Gly Asn Gly Ser Ser His Ser 200 Gly Ala Pro Gly Pro Asp Pro Thr Leu Ala Arg Gly His Asn Val Ile Asn Val Ile Val Pro Glu Ser Arg Ala His Phe Phe Gln Gln Leu Gly Tyr Val Leu Ala Thr Leu Leu Leu Phe Ile Leu Leu Leu Val Thr Val Leu Leu Ala Ala Arg Arg Arg Gly Gly Tyr Glu Tyr Ser Asp Gln Lys Ser Gly Lys Ser Lys Gly Lys Asp Val Asn Leu Ala Glu Phe Ala Val Ala Ala Gly Asp Gln Met Leu Tyr Arg Ser Glu Asp Ile Gln Leu Asp Tyr Lys Asn Asn Ile Leu Lys Glu Arg Ala Glu Leu Ala His Ser Pro Leu Pro Ala Lys Tyr Ile Asp 320 330 Leu Asp Lys Gly Phe Arg Lys Glu Asn Cys Lys

<210> 78

<211> 2243

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<213> Homo sapiens

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<211> 475

<212> PRT

<213> Homo sapiens

<400> 79

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Thr Tyr Gly Thr Thr Ser Ser Ser Leu Arg Ala Asp Gln Glu Ala 20 25 30

Leu Leu Glu Lys Leu Leu Asp Arg Pro Pro Pro Gly Leu Gln Arg

Pro Glu Asp Arg Phe Cys Gly Thr Tyr Ile Ile Phe Phe Ser Leu

Gly Ile Gly Ser Leu Leu Pro Trp Asn Phe Phe Ile Thr Ala Lys
65 70 75

Glu Tyr Trp Met Phe Lys Leu Arg Asn Ser Ser Ser Pro Ala Thr 80 85 90

Gly Glu Asp Pro Glu Gly Ser Asp Ile Leu Asn Tyr Phe Glu Ser 95 100 105

Tyr Leu Ala Val Ala Ser Thr Val Pro Ser Met Leu Cys Leu Val 110 Ala Asn Phe Leu Leu Val Asn Arg Val Ala Val His Ile Arg Val 125 135 Leu Ala Ser Leu Thr Val Ile Leu Ala Ile Phe Met Val Ile Thr Ala Leu Val Lys Val Asp Thr Ser Ser Trp Thr Arg Gly Phe Phe Ala Val Thr Ile Val Cys Met Val Ile Leu Ser Gly Ala Ser Thr 170 Val Phe Ser Ser Ser Ile Tyr Gly Met Thr Gly Ser Phe Pro Met 190 195 185 Arg Asn Ser Gln Ala Leu Ile Ser Gly Gly Ala Met Gly Gly Thr Val Ser Ala Val Ala Ser Leu Val Asp Leu Ala Ala Ser Ser Asp Val Arg Asn Ser Ala Leu Ala Phe Phe Leu Thr Ala Thr Ile Phe Leu Val Leu Cys Met Gly Leu Tyr Leu Leu Leu Ser Arg Leu Glu Tyr Ala Arg Tyr Tyr Met Arg Pro Val Leu Ala Ala His Val Phe Ser Gly Glu Glu Leu Pro Gln Asp Ser Leu Ser Ala Pro Ser Val Ala Ser Arg Phe Ile Asp Ser His Thr Pro Pro Leu Arg Pro Ile Leu Lys Lys Thr Ala Ser Leu Gly Phe Cys Val Thr Tyr Val Phe Phe Ile Thr Ser Leu Ile Tyr Pro Ala Val Cys Thr Asn Ile Glu Ser Leu Asn Lys Gly Ser Gly Ser Leu Trp Thr Thr Lys Phe Phe Ile Pro Leu Thr Thr Phe Leu Leu Tyr Asn Phe Ala Asp Leu Cys Gly Arg Gln Leu Thr Ala Trp Ile Gln Val Pro Gly Pro Asn Ser Lys Ala Leu Pro Gly Phe Val Leu Leu Arg Thr Cys Leu Ile Pro Leu Phe Val Leu Cys Asn Tyr Gln Pro Arq Val His Leu Lys

405 395 400 Thr Val Val Phe Gln Ser Asp Val Tyr Pro Ala Leu Leu Ser Ser 410 415 Leu Leu Gly Leu Ser Asn Gly Tyr Leu Ser Thr Leu Ala Leu Leu Tyr Gly Pro Lys Ile Val Pro Arg Glu Leu Ala Glu Ala Thr Gly Val Val Met Ser Phe Tyr Val Cys Leu Gly Leu Thr Leu Gly Ser 455 Ala Cys Ser Thr Leu Leu Val His Leu Ile 470 <210> 80 <211> 22 <212> DNA <213> Artificial <220> <221> Artificial sequence <222> 1-22 <223> Synthetic construct. <400> 80 ttttgcggtc accattgtct gc 22 <210> 81 <211> 23 <212> DNA <213> Homo sapiens <220> <221> Artificial sequence <222> 1-23 <223> Synthetic construct. <400> 81 cgtaggtgac acagaagccc agg 23 <210> 82 <211> 49 <212> DNA <213> Artificial <220> <221> Artificial sequence <222> 1-49 <223> Synthetic construct. tacggcatga ccggctcctt tcctatgagg aactcccagg cactgatat 49 <210> 83 <211> 1844

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<212> PRT

<213> Homo sapiens

<400> 84

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Leu Ser Leu Val Ala Ser Gln Asp Trp Lys Ala Glu Arg Ser Gln 20 25 30

Asp Pro Phe Glu Lys Cys Met Gln Asp Pro Asp Tyr Glu Gln Leu 35 40 40

Leu Lys Val Val Thr Trp Gly Leu Asn Arg Thr Leu Lys Pro Gln 50 55 60

Arg Val Ile Val Val Gly Ala Gly Val Ala Gly Leu Val Ala Ala 65 70 75

Lys Val Leu Ser Asp Ala Gly His Lys Val Thr Ile Leu Glu Ala 80 85 90

Asp Asn Arg Ile Gly Gly Arg Ile Phe Thr Tyr Arg Asp Gln Asn 95 100 105

Thr Gly Trp Ile Gly Glu Leu Gly Ala Met Arg Met Pro Ser Ser 110 115 120

His Arg Ile Leu His Lys Leu Cys Gln Gly Leu Gly Leu Asn Leu 125 130 135

Thr Lys Phe Thr Gln Tyr Asp Lys Asn Thr Trp Thr Glu Val His 140 145 150

Glu Val Lys Leu Arg Asn Tyr Val Val Glu Lys Val Pro Glu Lys 155 160 165 Leu Gly Tyr Ala Leu Arg Pro Gln Glu Lys Gly His Ser Pro Glu Asp Ile Tyr Gln Met Ala Leu Asn Gln Ala Leu Lys Asp Leu Lys 185 Ala Leu Gly Cys Arg Lys Ala Met Lys Lys Phe Glu Arg His Thr Leu Leu Glu Tyr Leu Leu Gly Glu Gly Asn Leu Ser Arg Pro Ala 215 Val Gln Leu Leu Gly Asp Val Met Ser Glu Asp Gly Phe Phe Tyr 230 Leu Ser Phe Ala Glu Ala Leu Arg Ala His Ser Cys Leu Ser Asp 255 245 Arg Leu Gln Tyr Ser Arg Ile Val Gly Gly Trp Asp Leu Leu Pro Arg Ala Leu Leu Ser Ser Leu Ser Gly Leu Val Leu Leu Asn Ala 275 Pro Val Val Ala Met Thr Gln Gly Pro His Asp Val His Val Gln Ile Glu Thr Ser Pro Pro Ala Arg Asn Leu Lys Val Leu Lys Ala Asp Val Val Leu Leu Thr Ala Ser Gly Pro Ala Val Lys Arg Ile Thr Phe Ser Pro Pro Leu Pro Arg His Met Gln Glu Ala Leu Arg Arg Leu His Tyr Val Pro Ala Thr Lys Val Phe Leu Ser Phe Arg Arg Pro Phe Trp Arg Glu Glu His Ile Glu Gly Gly His Ser Asn Thr Asp Arg Pro Ser Arg Met Ile Phe Tyr Pro Pro Pro Arg Glu Gly Ala Leu Leu Leu Ala Ser Tyr Thr Trp Ser Asp Ala Ala Ala Ala Phe Ala Gly Leu Ser Arg Glu Glu Ala Leu Arg Leu Ala Leu 420 Asp Asp Val Ala Ala Leu His Gly Pro Val Val Arg Gln Leu Trp Asp Gly Thr Gly Val Val Lys Arg Trp Ala Glu Asp Gln His Ser 440 Gln Gly Gly Phe Val Val Gln Pro Pro Ala Leu Trp Gln Thr Glu 455 460 465

Lys Asp Asp Trp Thr Val Pro Tyr Gly Arg Ile Tyr Phe Ala Gly 470 475 480

Glu His Thr Ala Tyr Pro His Gly Trp Val Glu Thr Ala Val Lys 485 490 495

Ser Ala Leu Arg Ala Ala Ile Lys Ile Asn Ser Arg Lys Gly Pro 500 505 510

Ala Ser Asp Thr Ala Ser Pro Glu Gly His Ala Ser Asp Met Glu 515 520 525

Gly Gln Gly His Val His Gly Val Ala Ser Ser Pro Ser His Asp 530 535 540

Leu Ala Lys Glu Glu Gly Ser His Pro Pro Val Gln Gly Gln Leu 545 550

Ser Leu Gln Asn Thr Thr His Thr Arg Thr Ser His 560 565

<210> 85

<211> 3316

<212> DNA

<213> Homo sapiens

<400> 85

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<210> 86

<211> 739

<212> PRT

<213> Homo sapiens

<400> 86

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Gly Lys Lys Asp Arg Asp Ser Cys Gly Arg Lys Asn Ser Glu Pro 20 25 30

Gly Ser Pro His Ser Leu Glu Ala Leu Arg Asp Ala Ala Pro Ser Gln Gly Leu Asn Phe Leu Leu Leu Phe Thr Lys Met Leu Phe Ile Phe Asn Phe Leu Phe Ser Pro Leu Pro Thr Pro Ala Leu Ile Cys Ile Leu Thr Phe Gly Ala Ala Ile Phe Leu Trp Leu Ile Thr Arg 80 Pro Gln Pro Val Leu Pro Leu Leu Asp Leu Asn Asn Gln Ser Val 100 Gly Ile Glu Gly Gly Ala Arg Lys Gly Val Ser Gln Lys Asn Asn Asp Leu Thr Ser Cys Cys Phe Ser Asp Ala Lys Thr Met Tyr Glu Val Phe Gln Arg Gly Leu Ala Val Ser Asp Asn Gly Pro Cys Leu Gly Tyr Arg Lys Pro Asn Gln Pro Tyr Arg Trp Leu Ser Tyr Lys Gln Val Ser Asp Arg Ala Glu Tyr Leu Gly Ser Cys Leu Leu His Lys Gly Tyr Lys Ser Ser Pro Asp Gln Phe Val Gly Ile Phe Ala Gln Asn Arg Pro Glu Trp Ile Ile Ser Glu Leu Ala Cys Tyr Thr Tyr Ser Met Val Ala Val Pro Leu Tyr Asp Thr Leu Gly Pro Glu Ala Ile Val His Ile Val Asn Lys Ala Asp Ile Ala Met Val Ile Cys Asp Thr Pro Gln Lys Ala Leu Val Leu Ile Gly Asn Val Glu Lys Gly Phe Thr Pro Ser Leu Lys Val Ile Ile Leu Met Asp Pro Phe Asp Asp Leu Lys Gln Arg Gly Glu Lys Ser Gly Ile Glu Ile Leu Ser Leu Tyr Asp Ala Glu Asn Leu Gly Lys Glu His Phe Arg Lys Pro Val Pro Pro Ser Pro Glu Asp Leu Ser Val Ile Cys 305 Phe Thr Ser Gly Thr Thr Gly Asp Pro Lys Gly Ala Met Ile Thr

				320					325					330
His	Gln	Asn	Ile	Val 335	Ser	Asn	Ala	Ala	Ala 340	Phe	Leu	Lys	Cys	Val 345
Glu	His	Ala	Tyr	Glu 350	Pro	Thr	Pro	Asp	Asp 355	Val	Ala	Ile	Ser	Tyr 360
Leu	Pro	Leu	Ala	His 365	Met	Phe	Glu	Arg	Ile 370	Val	Gln	Ala	Val	Val 375
Tyr	Ser	Cys	Gly	Ala 380	Arg	Val	Gly	Phe	Phe 385	Gln	Gly	Asp	Ile	Arg 390
Leu	Leu	Ala	Asp	Asp 395	Met	Lys	Thr	Leu	Lys 400	Pro	Thr	Leu	Phe	Pro 405
Ala	Val	Pro	Arg	Leu 410	Leu	Asn	Arg	Ile	Tyr 415	Asp	Lys	Val	Gln	Asn 420
Glu	Ala	Lys	Thr	Pro 425	Leu	Lys	Lys	Phe	Leu 430	Leu	Lys	Leu	Ala	Val 435
Ser	Ser	Lys	Phe	Lys 440	Glu	Leu	Gln	Lys	Gly 445	Ile	Ile	Arg	His	Asp 450
Ser	Phe	Trp	Asp	Lys 455	Leu	Ile	Phe	Ala	Lys 460	Ile	Gln	Asp	Ser	Leu 465
Gly	Gly	Arg	Val	Arg 470	Val	Ile	Val	Thr	Gly 475	Ala	Ala	Pro	Met	Ser 480
Thr	Ser	Val	Met	Thr 485	Phe	Phe	Arg	Ala	Ala 490	Met	Gly	Cys	Gln	Val 495
Tyr	Glu	Ala	Tyr	Gly 500	Gln	Thr	Glu	Cys	Thr 505	Gly	Gly	Cys	Thr	Phe 510
Thr	Leu	Pro	Gly	Asp 515	Trp	Thr	Ser	Gly	His 520	Val	Gly	Val	Pro	Leu 525
Ala	Cys	Asn	Tyr	Val 530	Lys	Leu	Glu	Asp	Val 535	Ala	Asp	Met	Asn	Tyr 540
Phe	Thr	Val	Asn	Asn 545	Glu	Gly	Glu	Val	Cys 550	Ile	Lys	Gly	Thr	Asn 555
Val	Phe	Lys	Gly	Tyr 560	Leu	Lys	Asp	Pro	Glu 565	Lys	Thr	Gln	Glu	Ala 570
Leu	Asp	Ser	Asp	Gly 575	Trp	Leu	His	Thr	Gly 580	Asp	Ile	Gly	Arg	Trp 585
Leu	Pro	Asn	Gly	Thr 590	Leu	Lys	Ile	Ile	Asp 595	Arg	Lys	Lys	Asn	Ile 600
Phe	Lys	Leu	Ala	Gln	Gly	Glu	Tyr	Ile	Ala	Pro	Glu	Lys	Ile	Glu 615

Asn Ile Tyr Asn Arg Ser Gln Pro Val Leu Gln Ile Phe Val His Gly Glu Ser Leu Arg Ser Ser Leu Val Gly Val Val Pro Asp 635 Thr Asp Val Leu Pro Ser Phe Ala Ala Lys Leu Gly Val Lys Gly 650 Ser Phe Glu Glu Leu Cys Gln Asn Gln Val Val Arg Glu Ala Ile 665 Leu Glu Asp Leu Gln Lys Ile Gly Lys Glu Ser Gly Leu Lys Thr 680 Phe Glu Gln Val Lys Ala Ile Phe Leu His Pro Glu Pro Phe Ser 705 695 700 Ile Glu Asn Gly Leu Leu Thr Pro Thr Leu Lys Ala Lys Arg Gly Glu Leu Ser Lys Tyr Phe Arg Thr Gln Ile Asp Ser Leu Tyr Glu 735 730

His Ile Gln Asp

<210> 87

<211> 2725

<212> DNA

<213> Homo sapiens

<400> 87

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<210> 88

<211> 660

<212> PRT <213> Homo sapiens

<400> 88

Met Asp Asp Trp Lys Pro Ser Pro Leu Ile Lys Pro Phe Gly Ala 1 5 10 15

Arg Lys Lys Arg Ser Trp Tyr Leu Thr Trp Lys Tyr Lys Leu Thr 20 25 30

Asn Gln Arg Ala Leu Arg Arg Phe Cys Gln Thr Gly Ala Val Leu 35 40 45

Phe Leu Leu Val Thr Val Ile Val Asn Ile Lys Leu Ile Leu Asp 50 55 60

Thr Arg Arg Ala Ile Ser Glu Ala Asn Glu Asp Pro Glu Pro Glu 65 70 75

Gln Asp Tyr Asp Glu Ala Leu Gly Arg Leu Glu Pro Pro Arg Arg 80 85 90

Arg Gly Ser Gly Pro Arg Arg Val Leu Asp Val Glu Val Tyr Ser 95 100 105

Ser Arg Ser Lys Val Tyr Val Ala Val Asp Gly Thr Thr Val Leu
110 115 120

Glu Asp Glu Ala Arg Glu Gln Gly Arg Gly Ile His Val Ile Val 125 130 135 Leu Asn Gln Ala Thr Gly His Val Met Ala Lys Arg Val Phe Asp Thr Tyr Ser Pro His Glu Asp Glu Ala Met Val Leu Phe Leu Asn 155 Met Val Ala Pro Gly Arg Val Leu Ile Cys Thr Val Lys Asp Glu Gly Ser Phe His Leu Lys Asp Thr Ala Lys Ala Leu Leu Arg Ser 195 185 Leu Gly Ser Gln Ala Gly Pro Ala Leu Gly Trp Arg Asp Thr Trp 200 Ala Phe Val Gly Arg Lys Gly Gly Pro Val Phe Gly Glu Lys His 215 Ser Lys Ser Pro Ala Leu Ser Ser Trp Gly Asp Pro Val Leu Leu 235 Lys Thr Asp Val Pro Leu Ser Ser Ala Glu Glu Ala Glu Cys His 255 Trp Ala Asp Thr Glu Leu Asn Arg Arg Arg Arg Phe Cys Ser Lys Val Glu Gly Tyr Gly Ser Val Cys Ser Cys Lys Asp Pro Thr 285 Pro Ile Glu Phe Ser Pro Asp Pro Leu Pro Asp Asn Lys Val Leu Asn Val Pro Val Ala Val Ile Ala Gly Asn Arg Pro Asn Tyr Leu 305 Tyr Arg Met Leu Arg Ser Leu Leu Ser Ala Gln Gly Val Ser Pro 320 Gln Met Ile Thr Val Phe Ile Asp Gly Tyr Tyr Glu Glu Pro Met Asp Val Val Ala Leu Phe Gly Leu Arg Gly Ile Gln His Thr Pro Ile Ser Ile Lys Asn Ala Arg Val Ser Gln His Tyr Lys Ala Ser Leu Thr Ala Thr Phe Asn Leu Phe Pro Glu Ala Lys Phe Ala Val Val Leu Glu Glu Asp Leu Asp Ile Ala Val Asp Phe Phe Ser Phe Leu Ser Gln Ser Ile His Leu Leu Glu Glu Asp Asp Ser Leu Tyr Cys Ile Ser Ala Trp Asn Asp Gln Gly Tyr Glu His Thr Ala Glu

435 425 430 Asp Pro Ala Leu Leu Tyr Arg Val Glu Thr Met Pro Gly Leu Gly Trp Val Leu Arg Arg Ser Leu Tyr Lys Glu Glu Leu Glu Pro Lys 455 Trp Pro Thr Pro Glu Lys Leu Trp Asp Trp Asp Met Trp Met Arg 475 Met Pro Glu Gln Arg Arg Gly Arg Glu Cys Ile Ile Pro Asp Val 495 490 Ser Arg Ser Tyr His Phe Gly Ile Val Gly Leu Asn Met Asn Gly Tyr Phe His Glu Ala Tyr Phe Lys Lys His Lys Phe Asn Thr Val Pro Gly Val Gln Leu Arg Asn Val Asp Ser Leu Lys Lys Glu Ala Tyr Glu Val Glu Val His Arg Leu Leu Ser Glu Ala Glu Val Leu Asp His Ser Lys Asn Pro Cys Glu Asp Ser Phe Leu Pro Asp Thr Glu Gly His Thr Tyr Val Ala Phe Ile Arg Met Glu Lys Asp Asp 575 Asp Phe Thr Trp Thr Gln Leu Ala Lys Cys Leu His Ile Trp Asp Leu Asp Val Arg Gly Asn His Arg Gly Leu Trp Arg Leu Phe 610 Arg Lys Lys Asn His Phe Leu Val Val Gly Val Pro Ala Ser Pro Tyr Ser Val Lys Lys Pro Pro Ser Val Thr Pro Ile Phe Leu Glu Pro Pro Pro Lys Glu Glu Gly Ala Pro Gly Ala Pro Glu Gln Thr

<210> 89

<211> 25

<212> DNA

<213> Artificial

<220>

<221> Artificial sequence

<222> 1-25

<223> Synthetic construct.

<400> 89

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<220>
<221> Artificial sequence
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<400> 90
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<210> 91
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-24
<223> Synthetic construct.
<400> 91
cccaggcaga gatgcagtac aggc 24
<210> 92
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-26
<223> Synthetic construct.
<400> 92
 cctccagtag gtggatggat tggctc 26
<210> 93
<211> 47
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-47
<223> Synthetic construct.
 ctcacctcat gaggatgagg ccatggtgct attcctcaac atggtag 47
<210> 94
<211> 3037
<212> DNA
<213> Homo sapiens
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<400> 94 cggacgcgtg ggctgctggt gggaaggcct aaagaactgg aaagcccact 50 ctcttggaac caccacact gtttaaagaa cctaagcacc atttaaagcc 100 actggaaatt tgttgtctag tggttgtggg tgaataaagg agggcagaat 150 ggatgattte atetecatta geetgetgte tetggetatg ttggtgggat 200 gttacgtggc cggaatcatt cccttggctg ttaatttctc agaggaacga 250 ctgaagctgg tgactgtttt gggtgctggc cttctctgtg gaactgctct 300 ggcagtcatc gtgcctgaag gagtacatgc cctttatgaa gatattcttg 350 agggaaaaca ccaccaagca agtgaaacac ataatgtgat tgcatcagac 400 aaagcagcag aaaaatcagt tgtccatgaa catgagcaca gccacgacca 450 cacacagetg catgeetata ttggtgttte cetegttetg ggettegttt 500 tcatgttgct ggtggaccag attggtaact cccatgtgca ttctactgac 550 gatccagaag cagcaaggtc tagcaattcc aaaatcacca ccacgctggg 600 tctggttgtc catgctgcag ctgatggtgt tgctttggga gcagcagcat 650 ctacttcaca gaccagtgtc cagttaattg tgtttgtggc aatcatgcta 700 cataaggcac cagctgcttt tggactggtt tccttcttga tgcatgctgg 750 cttagagcgg aatcgaatca gaaagcactt gctggtcttt gcattggcag 800 caccagttat gtccatggtg acatacttag gactgagtaa gagcagtaaa 850 gaagcccttt cagaggtgaa cgccacggga gtggccatgc ttttctctgc 900 cgggacattt ctttatgttg ccacagtaca tgtcctccct gaggtgggcg 950 gaatagggca cagccacaag cccgatgcca cgggagggag aggcctcagc 1000 cgcctggaag tggcagccct ggttctgggt tgcctcatcc ctctcatcct 1050 gtcagtagga caccagcatt aaatgttcaa ggtccagcct tggtccaggg 1100 ccgtttgcca tccagtgaga acagccggca cgtgacagct actcacttcc 1150 tcagtctctt gtctcacctt gcgcatctct acatgtattc ctagagtcca 1200 gaggggaggt gaggttaaaa cctgagtaat ggaaaagctt ttagagtaga 1250 aacacattta cgttgcagtt agctatagac atcccattgt gttatctttt 1300 aaaaggccct tgacattttg cgttttaata tttctcttaa ccctattctc 1350 agggaagatg gaatttagtt ttaaggaaaa gaggagaact tcatactcac 1400 aatgaaatag tgattatgaa aatacagtgt tetgtaatta agetatgtet 1450 ctttcttctt agtttagagg ctctgctact ttatccattg atttttaaca 1500 tggttcccac catgtaagac tggtgcttta gcatctatgc cacatgcgtt 1550 gatggaaggt catagcaccc actcacttag atgctaaagg tgattctagt 1600 taatctggga ttagggtcag gaaaatgata gcaagacaca ttgaaagctc 1650 tctttatact caaaagagat atccattgaa aagggatgtc tagagggatt 1700 taaacagctc ctttggcacg tgcctctctg aatccagcct gccattccat 1750 caaatggagc aggagggtg ggaggagctt ctaaagaggt gactggtatt 1800 ttgtagcatt ccttgtcaag ttctcctttg cagaatacct gtctccacat 1850 tcctagagag gagccaagtt ctagtagttt cagttctagg ctttccttca 1900 agaacagtca gatcacaaag tgtctttgga aattaaggga tattaaattt 1950 taagtgattt ttggatggtt attgatatct ttgtagtagc tttttttaaa 2000 agactaccaa aatgtatggt tgtccttttt ttttgttttt tttttttta 2050 attatttctc ttagcagatc agcaatccct ctagggacct aaatactagg 2100 tcagctttgg cgacactgtg tcttctcaca taaccacctg tagcaagatg 2150 gatcataaat gagaagtgtt tgcctattga tttaaagctt attggaatca 2200 tgtctcttgt ctcttcgtct tttctttgct tttcttctaa cttttccctc 2250 tagectetee tegecacaat ttgetgetta etgetggtgt taatatttgt 2300 gtgggatgaa ttcttatcag gacaaccact tctcgaactg taataatgaa 2350 gataataata totttattot ttatcocott caaagaaatt acctttgtgt 2400 caaatgccgc tttgttgagc ccttaaaata ccacctcctc atgtgtaaat 2450 tgacacaatc actaatctgg taatttaaac aattgagata gcaaaagtgt 2500 ttaacagact aggataattt tttttcata tttgccaaaa tttttgtaaa 2550 ccctgtcttg tcaaataagt gtataatatt gtattattaa tttatttta 2600 ctttctatac catttcaaaa cacattacac taagggggaa ccaagactag 2650 tttcttcagg gcagtggacg tagtagtttg taaaaacgtt ttctatgacg 2700 cataagctag catgcctatg atttatttcc ttcatgaatt tgtcactgga 2750 tcagcagctg tggaaataaa gcttgtgagc cctctgctgg ccacagtgag 2800 gaaagtagca caaataggat acagttgtat gtagtcattg gcaacaattg 2850 catacaattt tactaccaaq agaaggtata gtatggaaag tccaaatgac 2900

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<210> 95

<211> 307

<212> PRT

<213> Homo sapiens

<400> 95

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Val Gly Cys Tyr Val Ala Gly Ile Ile Pro Leu Ala Val Asn Phe 20 25 30

Ser Glu Glu Arg Leu Lys Leu Val Thr Val Leu Gly Ala Gly Leu 35 40 45

Leu Cys Gly Thr Ala Leu Ala Val Ile Val Pro Glu Gly Val His
50 55 60

Ala Leu Tyr Glu Asp Ile Leu Glu Gly Lys His His Gln Ala Ser
65 70 75

Glu Thr His Asn Val Ile Ala Ser Asp Lys Ala Ala Glu Lys Ser 80 85 90

Val Val His Glu His Glu His Ser His Asp His Thr Gln Leu His
95 100 105

Ala Tyr Ile Gly Val Ser Leu Val Leu Gly Phe Val Phe Met Leu 110 115 120

Leu Val Asp Gln Ile Gly Asn Ser His Val His Ser Thr Asp Asp 125 130 135

Pro Glu Ala Ala Arg Ser Ser Asn Ser Lys Ile Thr Thr Leu 140 145 150

Gly Leu Val Val His Ala Ala Ala Asp Gly Val Ala Leu Gly Ala 155 160 165

Ala Ala Ser Thr Ser Gln Thr Ser Val Gln Leu Ile Val Phe Val 170 175 180

Ala Ile Met Leu His Lys Ala Pro Ala Ala Phe Gly Leu Val Ser 185 190 195

Phe Leu Met His Ala Gly Leu Glu Arg Asn Arg Ile Arg Lys His 200 205 210

Leu Leu Val Phe Ala Leu Ala Ala Pro Val Met Ser Met Val Thr 215 220 225

Tyr Leu Gly Leu Ser Lys Ser Ser Lys Glu Ala Leu Ser Glu Val

3

240 235 230

Asn Ala Thr Gly Val Ala Met Leu Phe Ser Ala Gly Thr Phe Leu

Tyr Val Ala Thr Val His Val Leu Pro Glu Val Gly Gly Ile Gly 260 265

His Ser His Lys Pro Asp Ala Thr Gly Gly Arg Gly Leu Ser Arg 275

Leu Glu Val Ala Ala Leu Val Leu Gly Cys Leu Ile Pro Leu Ile 295 290

Leu Ser Val Gly His Gln His 305

<210> 96

<211> 25

<212> DNA

<213> Artificial

<220>

<221> Artificial sequence

<222> 1-25

<223> Synthetic construct.

<400> 96

gttgtgggtg aataaaggag ggcag 25

<210> 97

<211> 25

<212> DNA

<213> Artificial

<220>

<221> Artificial sequence

<222> 1-25

<223> Synthetic construct.

<400> 97

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<210> 98

<211> 50

<212> DNA

<213> Artificial

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<221> Artificial sequence

<222> 1-50

<223> Synthetic construct.

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<210> 99

<211> 1429

<212> DNA <213> Homo sapiens

<400> 99 gctcgaggcc ggcggcggcg ggagagcgac ccgggcggcc tcgtagcggg 50 gccccggatc cccgagtggc ggccggagcc tcgaaaagag attctcagcg 100 ctgattttga gatgatgggc ttgggaaacg ggcgtcgcag catgaagtcg 150 ccgcccctcg tgctggccgc cctggtggcc tgcatcatcg tcttgggctt 200 caactactgg attgcgagct cccggagcgt ggacctccag acacggatca 250 tggagctgga aggcagggtc cgcagggcgg ctgcagagag aggcgccgtg 300 gagctgaaga agaacgagtt ccagggagag ctggagaagc agcgggagca 350 gcttgacaaa atccagtcca gccacaactt ccagctggag agcgtcaaca 400 agctgtacca ggacgaaaag gcggttttgg tgaataacat caccacaggt 450 gagaggctca tccgagtgct gcaagaccag ttaaagaccc tgcagaggaa 500 ttacggcagg ctgcagcagg atgtcctcca gtttcagaag aaccagacca 550 acctggagag gaagttctcc tacgacctga gccagtgcat caatcagatg 600 aaggaggtga aggaacagtg tgaggagcga atagaagagg tcaccaaaaa 650 ggggaatgaa gctgtagctt ccagagacct gagtgaaaac aacgaccaga 700 gacagcagct ccaagccctc agtgagcctc agcccaggct gcaggcagca 750 ggcctgccac acacagaggt gccacaaggg aagggaaacg tgcttggtaa 800 cagcaagtcc cagacaccag cccccagttc cgaagtggtt ttggattcaa 850 agagacaagt tgagaaagag gaaaccaatg agatccaggt ggtgaatgag 900 gagcctcaga gggacaggct gccgcaggag ccaggccggg agcaggtggt 950 ggaagacaga cctgtaggtg gaagaggctt cgggggagcc ggagaactgg 1000 gccagacccc acaggtgcag gctgccctgt cagtgagcca ggaaaatcca 1050 gagatggagg gccctgagcg agaccagctt gtcatccccg acggacagga 1100 ggaggagcag gaagctgccg gggaagggag aaaccagcag aaactgagag 1150 gagaagatga ctacaacatg gatgaaaatg aagcagaatc tgagacagac 1200 aagcaagcag ccctggcagg gaatgacaga aacatagatg tttttaatgt 1250 tgaagatcag aaaagagaca ccataaattt acttgatcag cgtgaaaagc 1300 ggaatcatac actctgaatt gaactggaat cacatatttc acaacagggc 1350

cgaagagatg actataaaat gttcatgagg gactgaatac tgaaaactgt 1400 gaaatgtact aaataaaatg tacatctga 1429

<210> 100

<211> 401

<212> PRT

<213> Homo sapiens

<400> 100

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Leu Val Leu Ala Ala Leu Val Ala Cys Ile Ile Val Leu Gly Phe $20 \hspace{1cm} 25 \hspace{1cm} 30$

Asn Tyr Trp Ile Ala Ser Ser Arg Ser Val Asp Leu Gln Thr Arg 35 40 45

Ile Met Glu Leu Glu Gly Arg Val Arg Arg Ala Ala Ala Glu Arg
50 55 60

Gly Ala Val Glu Leu Lys Lys Asn Glu Phe Gln Gly Glu Leu Glu
65 70 75

Gln Leu Glu Ser Val Asn Lys Leu Tyr Gln Asp Glu Lys Ala Val 95 100 105

Leu Val Asn Asn Ile Thr Thr Gly Glu Arg Leu Ile Arg Val Leu 110 115 120

Gln Asp Gln Leu Lys Thr Leu Gln Arg Asn Tyr Gly Arg Leu Gln 125 130 135

Gln Asp Val Leu Gln Phe Gln Lys Asn Gln Thr Asn Leu Glu Arg 140 145 150

Lys Phe Ser Tyr Asp Leu Ser Gln Cys Ile Asn Gln Met Lys Glu 155 160 165

Val Lys Glu Gln Cys Glu Glu Arg Ile Glu Glu Val Thr Lys Lys 170 175 180

Gly Asn Glu Ala Val Ala Ser Arg Asp Leu Ser Glu Asn Asn Asp 185 190 195

Gln Arg Gln Gln Leu Gln Ala Leu Ser Glu Pro Gln Pro Arg Leu 200 205 210

Gln Ala Ala Gly Leu Pro His Thr Glu Val Pro Gln Gly Lys Gly 215 220 225

Asn Val Leu Gly Asn Ser Lys Ser Gln Thr Pro Ala Pro Ser Ser 230 235 240

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Glu Val Val Leu Asp Ser Lys Arg Gln Val Glu Lys Glu Glu Thr
Asn Glu Ile Gln Val Val Asn Glu Glu Pro Gln Arg Asp Arg Leu
                                                         270
                260
Pro Gln Glu Pro Gly Arg Glu Gln Val Val Glu Asp Arg Pro Val
Gly Gly Arg Gly Phe Gly Gly Ala Gly Glu Leu Gly Gln Thr Pro
                                                         300
                290
Gln Val Gln Ala Ala Leu Ser Val Ser Gln Glu Asn Pro Glu Met
                305
                                     310
Glu Gly Pro Glu Arg Asp Gln Leu Val Ile Pro Asp Gly Gln Glu
                                                         330
                                     325
                320
Glu Glu Gln Glu Ala Ala Gly Glu Gly Arg Asn Gln Gln Lys Leu
Arg Gly Glu Asp Asp Tyr Asn Met Asp Glu Asn Glu Ala Glu Ser
                                                         360
                350
Glu Thr Asp Lys Gln Ala Ala Leu Ala Gly Asn Asp Arg Asn Ile
Asp Val Phe Asn Val Glu Asp Gln Lys Arg Asp Thr Ile Asn Leu
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Leu Asp Gln Arg Glu Lys Arg Asn His Thr Leu
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<210> 101

<211> 3671

<212> DNA

<213> Homo sapiens

395

<400> 101

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ctcaccagtg caggaaggcg tgtagtcttc atgggagatg atacctggaa 550 agacetttte cetggtgett tetecaaage tttettette ceateettea 600 atgtcagaga cctagacaca gtggacaatg gcatcctgga acacctctac 650 cccaccatgg acagtggtga atgggacgtg ctgattgctc acttcctggg 700 tgtggaccac tgtggccaca agcatggccc tcaccaccct gaaatggcca 750 agaaacttag ccagatggac caggtgatcc agggacttgt ggagcgtctg 800 gagaatgaca cactgctggt agtggctggg gaccatggga tgaccacaaa 850 tggagaccat ggaggggaca gtgagctgga ggtctcagct gctctctttc 900 tgtatagccc cacagcagtc ttccccagca ccccaccaga ggagccagag 950 gtgattcctc aagttagcct tgtgcccacg ctggccctgc tgctgggcct 1000 gcccatccca tttgggaata tcggggaagt gatggctgag ctattctcag 1050 ggggtgagga ctcccagccc cactcctctg ctttagccca agcctcagct 1100 ctccatctca atgctcagca ggtgtcccga tttcttcata cctactcagc 1150 tgctactcag gaccttcaag ctaaggaget tcatcagetg cagaacetet 1200 tctccaaggc ctctgctgac taccagtggc ttctccagag ccccaagggg 1250 gctgaggcga cactgccgac tgtgattgct gagctgcagc agttcctgcg 1300 gggagctcgg gccatgtgca tcgagtcttg ggctcgtttc tctctggtcc 1350 gcatggcggg gggtactgct ctcttggctg cttcctgctt tatctgcctg 1400 ctggcatctc agtgggcaat atccccaggc tttccattct gccctctact 1450 cctgacacct gtggcctggg gcctggttgg ggccatagcg tatgctggac 1500 tectgggaae tattgagetg aagetagate tagtgettet aggggetgtg 1550 gctgcagtga gctcattcct cccttttctg tggaaagcct gggctggctg 1600 ggggtccaag aggcccctgg caaccctgtt tcccatccct gggcccgtcc 1650 tgttactcct gctgtttcgc ttggctgtgt tcttctctga tagttttgtt 1700 gtagctgagg ccagggccac ccccttcctt ttgggctcat tcatcctgct 1750 cctggttgtc cagcttcact gggagggcca gctgcttcca cctaagctac 1800 tcacaatgcc ccgccttggc acttcagcca caacaaaccc cccacggcac 1850 aatggtgcat atgccctgag gcttggaatt gggttgcttt tatgtacaag 1900 gctagctggg ctttttcatc gttgccctga agagacacct gtttgccact 1950 cctctccctg gctgagtcct ctggcatcca tggtgggtgg tcgagccaag 2000 aatttatggt atggagcttg tgtggcggcg ctggtggccc tgttagctgc 2050 cgtgcgcttg tggcttcgcc gctatggtaa tctcaagagc cccgagccac 2100 ccatgctctt tgtgcgctgg ggactgcccc taatggcatt gggtactgct 2150 gcctactggg cattggcgtc gggggcagat gaggctcccc cccgtctccg 2200 ggtcctggtc tctggggcat ccatggtgct gcctcgggct gtagcagggc 2250 tggctgcttc agggctcgcg ctgctgctct ggaagcctgt gacagtgctg 2300 gtgaaggetg gggcaggege tecaaggace aggactgtee teacteeett 2350 ctcaggcccc cccacttctc aagctgactt ggattatgtg gtccctcaaa 2400 tctaccgaca catgcaggag gagttccggg gccggttaga gaggaccaaa 2450 tctcagggtc ccctgactgt ggctgcttat cagttgggga gtgtctactc 2500 agetgetatg gteacagece teaccetgtt ggeetteeca ettetgetgt 2550 tgcatgcgga gcgcatcagc cttgtgttcc tgcttctgtt tctgcagagc 2600 ttccttctcc tacatctgct tgctgctggg atacccgtca ccacccctgg 2650 tccttttact gtgccatggc aggcagtctc ggcttgggcc ctcatggcca 2700 cacagacett ctactecaca ggecaceage etgtetttee agecatecat 2750 tggcatgcag ccttcgtggg attcccagag ggtcatggct cctgtacttg 2800 gctgcctgct ttgctagtgg gagccaacac ctttgcctcc cacctcctct 2850 ttgcagtagg ttgcccactg ctcctgctct ggcctttcct gtgtgagagt 2900 caagggctgc ggaagagaca gcagccccca gggaatgaag ctgatgccag 2950 agtcagaccc gaggaggaag aggagccact gatggagatg cggctccggg 3000 atgcgcctca gcacttctat gcagcactgc tgcagctggg cctcaagtac 3050 ctctttatcc ttggtattca gattctggcc tgtgccttgg cagcctccat 3100 ccttcgcagg catctcatgg tctggaaagt gtttgcccct aagttcatat 3150 ttgaggctgt gggcttcatt gtgagcagcg tgggacttct cctgggcata 3200 gctttggtga tgagagtgga tggtgctgtg agctcctggt tcaggcagct 3250 atttctggcc cagcagaggt agcctagtct gtgattactg gcacttggct 3300 acagagagtg ctggagaaca gtgtagcctg gcctgtacag gtactggatg 3350 atctgcaaga caggetcage catactetta etateatgea gecaggggee 3400 getgacatet aggaetteat tattetataa tteaggaeca eagtggagta 3450 tgateectaa eteetgattt ggatgeatet gagggaeaag gggggeggte 3500 teegaagtgg aataaaatag geegggegtg gtgaettgea eetataatee 3550 eageaetttg ggaggeagag gtgggaggat tgettggtee eaggagttea 3600 agaecageet gtggaacata acaagaeeee gtetetaeta tttaaaaaaa 3650 agtgtaataa aatgataata t 3671

<210> 102

<211> 1089

<212> PRT

<213> Homo sapiens

<400> 102

Met Gln Lys Ala Ser Val Leu Leu Phe Leu Ala Trp Val Cys Phe 1 10 5 15

Leu Phe Tyr Ala Gly Ile Ala Leu Phe Thr Ser Gly Phe Leu Leu 20 25 30

Thr Arg Leu Glu Leu Thr Asn His Ser Ser Cys Gln Glu Pro Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Cys Trp Met Ala Ser Arg Phe Ser Arg Val Val Leu Val Leu Ile $$ 75 $$ 70 $$ 75

Asp Ala Leu Arg Phe Asp Phe Ala Gln Pro Gln His Ser His Val

Pro Arg Glu Pro Pro Val Ser Leu Pro Phe Leu Gly Lys Leu Ser 95 100 105

Ser Leu Gln Arg Ile Leu Glu Ile Gln Pro His His Ala Arg Leu 110 115 120

Tyr Arg Ser Gln Val Asp Pro Pro Thr Thr Met Gln Arg Leu 125 130 135

Lys Ala Leu Thr Thr Gly Ser Leu Pro Thr Phe Ile Asp Ala Gly 140 145 150

Ser Asn Phe Ala Ser His Ala Ile Val Glu Asp Asn Leu Ile Lys 155 160 165

Gln Leu Thr Ser Ala Gly Arg Arg Val Val Phe Met Gly Asp Asp 170 175 180

Thr Trp Lys Asp Leu Phe Pro Gly Ala Phe Ser Lys Ala Phe Phe 185 190 195

Phe Pro Ser Phe Asn Val Arg Asp Leu Asp Thr Val Asp Asn Gly

				200					205					210
Ile	Leu	Glu	His	Leu 215	Tyr	Pro	Thr	Met	Asp 220	Ser	Gly	Glu	Trp	Asp 225
Val	Leu	Ile	Ala	His 230	Phe	Leu	Gly	Val _.	Asp 235	His	Cys	Gly	His	Lys 240
His	Gly	Pro	His	His 245	Pro	Glu	Met	Ala	Lys 250	Lys	Leu	Ser	Gln	Met 255
Asp	Gln	Val	Ile	Gln 260	Gly	Leu	Val	Glu	Arg 265	Leu	Glu	Asn	Asp	Thr 270
Leu	Leu	Val	Val	Ala 275	Gly	Asp	His	Gly	Met 280	Thr	Thr	Asn	Gly	Asp 285
His	Gly	Gly	Asp	Ser 290	Glu	Leu	Glu	Val	Ser 295	Ala	Ala	Leu	Phe	Leu 300
Tyr	Ser	Pro	Thr	Ala 305	Val	Phe	Pro	Ser	Thr 310	Pro	Pro	Glu	Glu	Pro 315
Glu	Val	Ile	Pro	Gln 320	Val	Ser	Leu	Val	Pro 325	Thr	Leu	Ala	Leu	Leu 330
Leu	Gly	Leu	Pro	Ile 335	Pro	Phe	Gly	Asn	Ile 340	Gly	Glu	Val	Met	Ala 345
Glu	Leu	Phe	Ser	Gly 350	Gly	Glu	Asp	Ser	Gln 355	Pro	His	Ser	Ser	Ala 360
Leu	Ala	Gln	Ala	Ser 365	Ala	Leu	His	Leu	Asn 370	Ala	Gln	Gln	Val	Ser 375
Arg	Phe	Leu	His	Thr 380	Tyr	Ser	Ala	Ala	Thr 385	Gln	Asp	Leu	Gln	Ala 390
Lys	Glu	Leu	His	Gln 395		Gln	Asn	Leu	Phe 400		Lys	Ala	Ser	Ala 405
Asp	Tyr	Gln	Trp	Leu 410	Leu	Gln	Ser	Pro	Lys 415	Gly	Ala	Glu	Ala	Thr 420
Leu	Pro	Thr	Val	Ile 425		Glu	Leu	Gln	Gln 430		Leu	Arg	Gly	Ala 435
Arg	Ala	Met	Cys	Ile 440		Ser	Trp	Ala	Arg 445		Ser	Leu	Val	Arg 450
Met	Ala	Gly	Gly	Thr 455		Leu	Leu	Ala	Ala 460		Cys	Phe	Ile	Cys 465
Leu	Leu	. Ala	Ser	Gln 470		Ala	Ile	Ser	Pro 475	Gly	Phe	Pro	Phe	Cys 480
Pro	Leu	Leu	Leu	Thr 485		Val	Ala	Trp	Gly 490		Val	Gly	Ala	Ile 495

Ala Tyr Ala Gly Leu Leu Gly Thr Ile Glu Leu Lys Leu Asp Leu Val Leu Leu Gly Ala Val Ala Ala Val Ser Ser Phe Leu Pro Phe 515 Leu Trp Lys Ala Trp Ala Gly Trp Gly Ser Lys Arg Pro Leu Ala 530 Thr Leu Phe Pro Ile Pro Gly Pro Val Leu Leu Leu Leu Phe 550 Arg Leu Ala Val Phe Phe Ser Asp Ser Phe Val Val Ala Glu Ala 565 Arg Ala Thr Pro Phe Leu Leu Gly Ser Phe Ile Leu Leu Val 585 575 Val Gln Leu His Trp Glu Gly Gln Leu Leu Pro Pro Lys Leu Leu Thr Met Pro Arg Leu Gly Thr Ser Ala Thr Thr Asn Pro Pro Arg 615 His Asn Gly Ala Tyr Ala Leu Arg Leu Gly Ile Gly Leu Leu Cys Thr Arg Leu Ala Gly Leu Phe His Arg Cys Pro Glu Glu Thr 635 Pro Val Cys His Ser Ser Pro Trp Leu Ser Pro Leu Ala Ser Met 650 Val Gly Gly Arg Ala Lys Asn Leu Trp Tyr Gly Ala Cys Val Ala 665 Ala Leu Val Ala Leu Leu Ala Ala Val Arg Leu Trp Leu Arg Arg 680 Tyr Gly Asn Leu Lys Ser Pro Glu Pro Pro Met Leu Phe Val Arg 695 Trp Gly Leu Pro Leu Met Ala Leu Gly Thr Ala Ala Tyr Trp Ala 710 Leu Ala Ser Gly Ala Asp Glu Ala Pro Pro Arg Leu Arg Val Leu Val Ser Gly Ala Ser Met Val Leu Pro Arg Ala Val Ala Gly Leu Ala Ala Ser Gly Leu Ala Leu Leu Leu Trp Lys Pro Val Thr Val Leu Val Lys Ala Gly Ala Gly Ala Pro Arg Thr Arg Thr Val Leu Thr Pro Phe Ser Gly Pro Pro Thr Ser Gln Ala Asp Leu Asp Tyr

795 790 785 Val Val Pro Gln Ile Tyr Arg His Met Gln Glu Glu Phe Arg Gly Arg Leu Glu Arg Thr Lys Ser Gln Gly Pro Leu Thr Val Ala Ala Tyr Gln Leu Gly Ser Val Tyr Ser Ala Ala Met Val Thr Ala Leu 830 Thr Leu Leu Ala Phe Pro Leu Leu Leu His Ala Glu Arg Ile 850 845 Ser Leu Val Phe Leu Leu Leu Phe Leu Gln Ser Phe Leu Leu 865 His Leu Leu Ala Ala Gly Ile Pro Val Thr Thr Pro Gly Pro Phe 880 Thr Val Pro Trp Gln Ala Val Ser Ala Trp Ala Leu Met Ala Thr Gln Thr Phe Tyr Ser Thr Gly His Gln Pro Val Phe Pro Ala Ile His Trp His Ala Ala Phe Val Gly Phe Pro Glu Gly His Gly Ser Cys Thr Trp Leu Pro Ala Leu Leu Val Gly Ala Asn Thr Phe Ala 935 Ser His Leu Leu Phe Ala Val Gly Cys Pro Leu Leu Leu Trp Pro Phe Leu Cys Glu Ser Gln Gly Leu Arg Lys Arg Gln Gln Pro Pro Gly Asn Glu Ala Asp Ala Arg Val Arg Pro Glu Glu Glu Glu 985 Glu Pro Leu Met Glu Met Arg Leu Arg Asp Ala Pro Gln His Phe 1000 995 Tyr Ala Ala Leu Leu Gln Leu Gly Leu Lys Tyr Leu Phe Ile Leu 1010 Gly Ile Gln Ile Leu Ala Cys Ala Leu Ala Ala Ser Ile Leu Arg 1030 Arg His Leu Met Val Trp Lys Val Phe Ala Pro Lys Phe Ile Phe 1050 1045 Glu Ala Val Gly Phe Ile Val Ser Ser Val Gly Leu Leu Leu Gly 1060 Ile Ala Leu Val Met Arg Val Asp Gly Ala Val Ser Ser Trp Phe 1080 1075 1070

Arg Gln Leu Phe Leu Ala Gln Gln Arg 1085

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aaatgtttgc cagactgggt gcagaattta ttcaggtggg tgt 1743

<210> 104 <211> 442

<212> PRT

<213> Homo sapiens

Ile His Val Gly Lys Glu Lys His Pro Ala Asn Leu Ile Leu Ile Tyr Gly Asn Glu Phe Asp Lys Arg Phe Phe Val Pro Ala Glu Lys 185 190 Ile Val Ile Asn Phe Ile Thr Leu Asn Ile Ser Asp Asp Ser Lys 205 200 Ile Ser His Gln Asp Met Ser Leu Leu Gly Lys Ser Ser Asp Val 220 215 Ser Ser Leu Asn Asp Pro Gln Pro Ser Gly Asn Leu Arg Pro Pro 235 230 Gln Glu Glu Glu Val Lys His Leu Gly Tyr Ala Ser His Leu 250 Met Glu Ile Phe Cys Asp Ser Glu Glu Asn Thr Glu Gly Thr Ser Leu Thr Gln Gln Glu Ser Leu Ser Arg Thr Ile Pro Pro Asp Lys 285 Thr Val Ile Glu Tyr Glu Tyr Asp Val Arg Thr Thr Asp Ile Cys Ala Gly Pro Glu Glu Gln Glu Leu Ser Leu Gln Glu Glu Val Ser Thr Gln Gly Thr Leu Leu Glu Ser Gln Ala Ala Leu Ala Val Leu Gly Pro Gln Thr Leu Gln Tyr Ser Tyr Thr Pro Gln Leu Gln Asp Leu Asp Pro Leu Ala Gln Glu His Thr Asp Ser Glu Glu Gly Pro Glu Glu Glu Pro Ser Thr Thr Leu Val Asp Trp Asp Pro Gln Thr Gly Arg Leu Cys Ile Pro Ser Leu Ser Ser Phe Asp Gln Asp Ser Glu Gly Cys Glu Pro Ser Glu Gly Asp Gly Leu Gly Glu Gly Leu Leu Ser Arg Leu Tyr Glu Glu Pro Ala Pro Asp Arg Pro Pro 410 Gly Glu Asn Glu Thr Tyr Leu Met Gln Phe Met Glu Glu Trp Gly 430 425 Leu Tyr Val Gln Met Glu Asn 440

<210> 105

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<211> 21
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<213> Artificial
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<222> 1-21
<223> Synthetic construct
<400> 105
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<210> 106
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 106
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<210> 107
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 107
 agtcgcaggc agcgttgg 18
<210> 108
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.
<400> 108
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<210> 109
<211> 51
<212> DNA
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<220>
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<221> Artificial Sequence

5

AR HOL

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<223> Synthetic construct.
<400> 109
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c 51
<210> 110
<211> 1114
<212> DNA
<213> Homo sapiens
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 cgccagcctg cgtctgccat ggggctcggg ttgaggggct ggggacgtcc 100
 totgotgact gtggccaccg coctgatgct gcccgtgaag ccccccgcag 150
 gctcctgggg ggcccagatc atcgggggcc acgaggtgac cccccactcc 200
 aggccctaca tggcatccgt gcgcttcggg ggccaacatc actgcggagg 250
 cttectgetg egageeeget gggtggtete ggeegeeeae tgetteagee 300
 acagagaeet eegeaetgge etggtggtge tgggegeeea egteetgagt 350
 actgeggage ecacecagea ggtgtttgge ategatgete teaceaegea 400
 ccccgactac caccccatga cccacgccaa cgacatctgc ctgctgcggc 450
 tgaacggctc tgctgtcctg ggccctgcag tggggctgct gaggctgcca 500
 gggagaaggg ccaggccccc cacagcgggg acacggtgcc gggtggctgg 550
 ctggggcttc gtgtctgact ttgaggagct gccgcctgga ctgatggagg 600
 ccaaggtccg agtgctggac ccggacgtct gcaacagctc ctggaagggc 650
 cacctgacac ttaccatgct ctgcacccgc agtggggaca gccacagacg 700
 gggcttctgc tcggccgact ccggagggcc cctggtgtgc aggaaccggg 750
 ctcacggcct cgtttccttc tcgggcctct ggtgcggcga ccccaagacc 800
 cccgacgtgt acacgcaggt gtccgccttt gtggcctgga tctgggacgt 850
 ggttcggcgg agcagtcccc agcccggccc cctgcctggg accaccaggc 900
 ccccaggaga agccgcctga gccacaacct tgcggcatgc aaatgagatg 950
 gccgctccag gcctggaatg ttccgtggct gggccccacg ggaagcctga 1000
 tgttcagggt tggggtggga cgggcagcgg tggggcacac ccattccaca 1050
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tgcaaagggc agaagcaaac ccagtaaaat gttaactgac aaaaaaaaa 1100

aaaaaaaaa gaaa 1114

<210> 111

<211> 283

<212> PRT

<213> Homo sapiens

<400> 111

Met Gly Leu Gly Leu Arg Gly Trp Gly Arg Pro Leu Leu Thr Val 1 5 10 15

Ala Thr Ala Leu Met Leu Pro Val Lys Pro Pro Ala Gly Ser Trp
20 25 30

Gly Ala Gln Ile Ile Gly Gly His Glu Val Thr Pro His Ser Arg

Pro Tyr Met Ala Ser Val Arg Phe Gly Gly Gln His His Cys Gly 50 55 60

Gly Phe Leu Leu Arg Ala Arg Trp Val Val Ser Ala Ala His Cys
65 70 75

Phe Ser His Arg Asp Leu Arg Thr Gly Leu Val Val Leu Gly Ala 80 85 90

His Val Leu Ser Thr Ala Glu Pro Thr Gln Gln Val Phe Gly Ile 95 100 105

Asp Ala Leu Thr Thr His Pro Asp Tyr His Pro Met Thr His Ala 110 115 120

Asn Asp Ile Cys Leu Leu Arg Leu Asn Gly Ser Ala Val Leu Gly
125
130
135

Pro Ala Val Gly Leu Leu Arg Leu Pro Gly Arg Arg Ala Arg Pro 140 145 150

Pro Thr Ala Gly Thr Arg Cys Arg Val Ala Gly Trp Gly Phe Val 155 160 165

Ser Asp Phe Glu Glu Leu Pro Pro Gly Leu Met Glu Ala Lys Val 170 175 180

Arg Val Leu Asp Pro Asp Val Cys Asn Ser Ser Trp Lys Gly His
185 190 195

Leu Thr Leu Thr Met Leu Cys Thr Arg Ser Gly Asp Ser His Arg 200 205 210

Arg Gly Phe Cys Ser Ala Asp Ser Gly Gly Pro Leu Val Cys Arg 215 220 225

Asn Arg Ala His Gly Leu Val Ser Phe Ser Gly Leu Trp Cys Gly 230 235 240

Asp Pro Lys Thr Pro Asp Val Tyr Thr Gln Val Ser Ala Phe Val 245 250 255

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275
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    <211> 24
    <212> DNA
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    <222> 1-24
    <223> Synthetic construct.
    <400> 112
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    <210> 113
    <211> 23
    <212> DNA
    <213> Artificial
    <220>
    <221> Artificial Sequence
    <222> 1-23
    <223> Synthetic construct.
<400> 113
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in i
    <212> DNA
    <213> Artificial
Fly
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    <223> Synthetic construct.
    <400> 114
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    <211> 1808
    <212> DNA
    <213> Homo sapiens
    <400> 115
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Ala Trp Ile Trp Asp Val Val Arg Arg Ser Ser Pro Gln Pro Gly

Pro Leu Pro Gly Thr Thr Arg Pro Pro Gly Glu Ala Ala

260

265

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cetgacgeet gacgeetgte eeeggeeegg catgageege tacetgetge 100

cgctgtcggc gctgggcacg gtagcaggcg ccgccgtgct gctcaaggac 150

tatgtcaccg gtggggcttg ccccagcaag gccaccatcc ctgggaagac 200

ggtcatcgtg acgggcgcca acacaggcat cgggaagcag accgccttgg 250 aactggccag gagaggaggc aacatcatcc tggcctgccg agacatggag 300 aagtgtgagg cggcagcaaa ggacatccgc ggggagaccc tcaatcacca 350 tgtcaacgcc cggcacctgg acttggcttc cctcaagtct atccgagagt 400 ttgcagcaaa gatcattgaa gaggaggagc gagtggacat tctaatcaac 450 aacgcgggtg tgatgcggtg ccccactgg accaccgagg acggcttcga 500 gatgcagttt ggcgttaacc acctgggtca ctttctcttg acaaacttgc 550 tgctggacaa gctgaaagcc tcagcccctt cgcggatcat caacctctcg 600 tccctggccc atgttgctgg gcacatagac tttgacgact tgaactggca 650 gacgaggaag tataacacca aagccgccta ctgccagagc aagctcgcca 700 tcgtcctctt caccaaggag ctgagccggc ggctgcaagg ctctggtgtg 750 actgtcaacg ccctgcaccc cggcgtggcc aggacagagc tgggcagaca 800 cacgggcatc catggctcca ccttctccag caccacactc gggcccatct 850 tctggctgct ggtcaagagc cccgagctgg ccgcccagcc cagcacatac 900 ctggccgtgg cggaggaact ggcggatgtt tccggaaagt acttcgatgg 950 actcaaacag aaggccccgg cccccgaggc tgaggatgag gaggtggccc 1000 ggaggetttg ggetgaaagt geeegeetgg tgggettaga ggeteeetet 1050 gtgagggagc agcccctccc cagataacct ctggagcaga tttgaaagcc 1100 aggatggcgc ctccagaccg aggacagctg tccgccatgc ccgcagcttc 1150 ctggcactac ctgagccggg agacccagga ctggcggccg ccatgcccgc 1200 agtaggttet agggggeggt getggeegea gtggaetgge etgeaggtga 1250 gcactgcccc gggctctggc tggttccgtc tgctctgctg ccagcagggg 1300 agaggggcca tctgatgctt cccctgggaa tctaaactgg gaatggccga 1350 ggaggaaggg gctctgtgca cttgcaggcc acgtcaggag agccagcggt 1400 gcctgtcggg gagggttcca aggtgctccg tgaagagcat gggcaagttg 1450 totgacactt ggtggattot tgggtccctg tgggaccttg tgcatgcatg 1500 gtcctctctg agccttggtt tcttcagcag tgagatgctc agaataactg 1550 ctgtctccca tgatggtgtg gtacagcgag ctgttgtctg gctatggcat 1600 ggctgtgccg ggggtgtttg ctgagggctt cctgtgccag agcccagcca 1650 gagagcaggt gcaggtgtca tcccgagttc aggctctgca cggcatggag 1700 tgggaacccc accagctgct gctacaggac ctgggattgc ctgggactcc 1750 caccttccta tcaattctca tggtagtcca aactgcagac tctcaaactt 1800 gctcattt 1808

<210> 116

<211> 331

<212> PRT

<213> Homo sapiens

<400> 116

Met Ser Arg Tyr Leu Leu Pro Leu Ser Ala Leu Gly Thr Val Ala 1 5 10 15

Gly Ala Ala Val Leu Leu Lys Asp Tyr Val Thr Gly Gly Ala Cys $20 \\ 25 \\ 30$

Pro Ser Lys Ala Thr Ile Pro Gly Lys Thr Val Ile Val Thr Gly 35 40 45

Ala Asn Thr Gly Ile Gly Lys Gln Thr Ala Leu Glu Leu Ala Arg
50 55 60

Arg Gly Gly Asn Ile Ile Leu Ala Cys Arg Asp Met Glu Lys Cys 65 70 75

Glu Ala Ala Lys Asp Ile Arg Gly Glu Thr Leu Asn His His 80 85 90

Val Asn Ala Arg His Leu Asp Leu Ala Ser Leu Lys Ser Ile Arg 95 100 105

Glu Phe Ala Ala Lys Ile Ile Glu Glu Glu Glu Arg Val Asp Ile 110 115 120

Leu Ile Asn Asn Ala Gly Val Met Arg Cys Pro His Trp Thr Thr 125 130 135

Glu Asp Gly Phe Glu Met Gln Phe Gly Val Asn His Leu Gly His

Phe Leu Leu Thr Asn Leu Leu Leu Asp Lys Leu Lys Ala Ser Ala 155 160 165

Pro Ser Arg Ile Ile Asn Leu Ser Ser Leu Ala His Val Ala Gly 170 175 180

His Ile Asp Phe Asp Asp Leu Asn Trp Gln Thr Arg Lys Tyr Asn 185 190 190

Thr Lys Ala Ala Tyr Cys Gln Ser Lys Leu Ala Ile Val Leu Phe 200 205 210

Thr Lys Glu Leu Ser Arg Arg Leu Gln Gly Ser Gly Val Thr Val 215 220 225

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Asn Ala Leu His Pro Gly Val Ala Arg Thr Glu Leu Gly Arg His
Thr Gly Ile His Gly Ser Thr Phe Ser Ser Thr Thr Leu Gly Pro
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                                                         255
Ile Phe Trp Leu Leu Val Lys Ser Pro Glu Leu Ala Ala Gln Pro
Ser Thr Tyr Leu Ala Val Ala Glu Glu Leu Ala Asp Val Ser Gly
                275
                                                         285
Lys Tyr Phe Asp Gly Leu Lys Gln Lys Ala Pro Ala Pro Glu Ala
                290
Glu Asp Glu Glu Val Ala Arg Arg Leu Trp Ala Glu Ser Ala Arg
                305
                                    310
Leu Val Gly Leu Glu Ala Pro Ser Val Arg Glu Gln Pro Leu Pro
                                    325
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Arg

<210> 117

<211> 2249

<212> DNA

<213> Homo sapiens

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 gggcgacacg ttctcggcgc tgaccagcgt ggcgcgcgc ctggggcccg 150
 agcgccggct gctggggctg ctgaggcggt acctgcgcgg ggaggaggcg 200
 cggctgcggg acctgactag attctacgac aaggtacttt ctttgcatga 250
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 aacgcctgca gtctgactgg aggaatgtgg tacatagtct ggaggccagt 350
 gagaacatcc gagctctgaa ggatggctat gagaaggtgg agcaagacct 400
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 aggacgtgta catgctcaat gtgaaaggcc tggcccgagg tgtcttcag 500
 agagtcactg gctctgccat cactgacctg tacagccca aacggctctt 550
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 ttccgaggat cttacggaga gtggaagaca gaggatgagg caagtctaga 700

agatgccttg gatcacttgg cctttgctta tttccgggca ggaaatgttt 750 cgtgtgccct cagcctctct cgggagtttc ttctctacag cccagataat 800 aagaggatgg ccaggaatgt cttgaaatat gaaaggctct tggcagagag 850 ccccaaccac gtggtagctg aggctgtcat ccagaggccc aatatacccc 900 acctgcagac cagagacacc tacgaggggc tatgtcagac cctgggttcc 950 cageceaete tetaceagat ecetageete taetgtteet atgagaceaa 1000 ttccaacgcc tacctgctgc tccagcccat ccggaaggag gtcatccacc 1050 tggagcccta cattgctctc taccatgact tcgtcagtga ctcagaggct 1100 cagaaaatta gagaacttgc agaaccatgg ctacagaggt cagtggtggc 1150 atcaggggag aagcagttac aagtggagta ccgcatcagc aaaagtgcct 1200 ggctgaagga cactgttgac ccaaaactgg tgaccctcaa ccaccgcatt 1250 gctgccctca caggccttga tgtccggcct ccctatgcag agtatctgca 1300 ggtggtgaac tatggcatcg gaggacacta tgagcctcac tttgaccatg 1350 ctacgtcacc aagcagcccc ctctacagaa tgaagtcagg aaaccgagtt 1400 gcaacattta tgatctatct gagctcggtg gaagctggag gagccacagc 1450 cttcatctat gccaacctca gcgtgcctgt ggttaggaat gcagcactgt 1500 tttggtggaa cctgcacagg agtggtgaag gggacagtga cacacttcat 1550 gctggctgtc ctgtcctggt gggagataag tgggtggcca acaagtggat 1600 acatgagtat ggacaggaat teegeagace etgeagetee agecetgaag 1650 actgaactgt tggcagagag aagctggtgg agtcctgtgg ctttccagag 1700 aagccaggag ccaaaagctg gggtaggaga ggagaaagca gagcagcctc 1750 ctggaagaag gccttgtcag ctttgtctgt gcctcgcaaa tcagaggcaa 1800 gggagaggtt gttaccaggg gacactgaga atgtacattt gatctgcccc 1850 agccacggaa gtcagagtag gatgcacagt acaaaggagg ggggagtgga 1900 ggcctgagag ggaagtttct ggagttcaga tactctctgt tgggaacagg 1950 acatctcaac agtctcaggt tcgatcagtg ggtcttttgg cactttgaac 2000 cttgaccaca gggaccaaga agtggcaatg aggacacctg caggaggggc 2050 tagectgact eccagaactt taagacttte teeccactge ettetgetge 2100 agcccaagca gggagtgtcc ccctcccaga agcatatccc agatgagtgg 2150

<210> 118

<211> 544

<212> PRT

<213> Homo sapiens

<400> 118

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Leu Gly Thr Gly Asp Pro Glu Arg Ala Ala Ala Arg Gly Asp Thr
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Phe Ser Ala Leu Thr Ser Val Ala Arg Ala Leu Ala Pro Glu Arg
35 40 45

Arg Leu Leu Gly Leu Leu Arg Arg Tyr Leu Arg Gly Glu Glu Ala 50 55 60

Arg Leu Arg Asp Leu Thr Arg Phe Tyr Asp Lys Val Leu Ser Leu 65 70 75

His Glu Asp Ser Thr Thr Pro Val Ala Asn Pro Leu Leu Ala Phe 80 85 90

Thr Leu Ile Lys Arg Leu Gln Ser Asp Trp Arg Asn Val Val His 95 100 105

Ser Leu Glu Ala Ser Glu Asn Ile Arg Ala Leu Lys Asp Gly Tyr 110 115 120

Glu Lys Val Glu Gln Asp Leu Pro Ala Phe Glu Asp Leu Glu Gly
125
130
137

Ala Ala Arg Ala Leu Met Arg Leu Gln Asp Val Tyr Met Leu Asn 140 145 150

Val Lys Gly Leu Ala Arg Gly Val Phe Gln Arg Val Thr Gly Ser 155 160 165

Ala Ile Thr Asp Leu Tyr Ser Pro Lys Arg Leu Phe Ser Leu Thr 170 175 180

Gly Asp Asp Cys Phe Gln Val Gly Lys Val Ala Tyr Asp Met Gly 185 190 195

Asp Tyr Tyr His Ala Ile Pro Trp Leu Glu Glu Ala Val Ser Leu
200 205 210

Phe Arg Gly Ser Tyr Gly Glu Trp Lys Thr Glu Asp Glu Ala Ser 215 220 225

Leu Glu Asp Ala Leu Asp His Leu Ala Phe Ala Tyr Phe Arg Ala 230 235 240

Gly Asn Val Ser Cys Ala Leu Ser Leu Ser Arg Glu Phe Leu Leu Tyr Ser Pro Asp Asn Lys Arg Met Ala Arg Asn Val Leu Lys Tyr Glu Arg Leu Leu Ala Glu Ser Pro Asn His Val Val Ala Glu Ala 280 Val Ile Gln Arg Pro Asn Ile Pro His Leu Gln Thr Arg Asp Thr 295 300 Tyr Glu Gly Leu Cys Gln Thr Leu Gly Ser Gln Pro Thr Leu Tyr 310 Gln Ile Pro Ser Leu Tyr Cys Ser Tyr Glu Thr Asn Ser Asn Ala Tyr Leu Leu Gln Pro Ile Arg Lys Glu Val Ile His Leu Glu Pro Tyr Ile Ala Leu Tyr His Asp Phe Val Ser Asp Ser Glu Ala Gln Lys Ile Arg Glu Leu Ala Glu Pro Trp Leu Gln Arg Ser Val Val Ala Ser Gly Glu Lys Gln Leu Gln Val Glu Tyr Arg Ile Ser Lys Ser Ala Trp Leu Lys Asp Thr Val Asp Pro Lys Leu Val Thr Leu Asn His Arg Ile Ala Ala Leu Thr Gly Leu Asp Val Arg Pro Pro Tyr Ala Glu Tyr Leu Gln Val Val Asn Tyr Gly Ile Gly Gly His Tyr Glu Pro His Phe Asp His Ala Thr Ser Pro Ser Ser Pro 450 Leu Tyr Arg Met Lys Ser Gly Asn Arg Val Ala Thr Phe Met Ile 465 Tyr Leu Ser Ser Val Glu Ala Gly Gly Ala Thr Ala Phe Ile Tyr Ala Asn Leu Ser Val Pro Val Val Arg Asn Ala Ala Leu Phe Trp 490 495 Trp Asn Leu His Arg Ser Gly Glu Gly Asp Ser Asp Thr Leu His Ala Gly Cys Pro Val Leu Val Gly Asp Lys Trp Val Ala Asn Lys 515 525 Trp Ile His Glu Tyr Gly Gln Glu Phe Arg Arg Pro Cys Ser Ser

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Hall High High
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Jan Jan

D"

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Ser Pro Glu Asp
 <210> 119
 <211> 23
 <212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 119
 cgggacagga gacccagaaa ggg 23
<210> 120
<211> 24
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<213> Artificial
<220>
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<222> 1-24
<223> Synthetic construct.
<400> 120
 ggccaagtga tccaaggcat cttc 24
<210> 121
<211> 49
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<221> Artificial Sequence
<222> 1-49
<223> Synthetic construct.
<400> 121
 ctgcgggacc tgactagatt ctacgacaag gtactttctt tgcatgggg 49
<210> 122
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<212> DNA
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<400> 122
 gagataggga gtctgggttt aagttcctgc tccatctcag gagcccctgc 50
 tcccacccct aggaagccac cagactccac ggtgtggggc caatcaggtg 100
 gaatcggccc tggcaggtgg ggccacgagc gctggctgag ggaccgagcc 150
 ggagagecee ggageceeeg taaceegege ggggagegee caggatgeeg 200
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cgcggggact cggagcaggt gcgctactgc gcgcgcttct cctacctctg 250 gctcaagttt tcacttatca tctattccac cgtgttctgg ctgattgggg 300 ccctggtcct gtctgtgggc atctatgcag aggttgagcg gcagaaatat 350 aaaacccttg aaagtgcctt cctggctcca gccatcatcc tcatcctcct 400 gggcgtcgtc atgttcatgg tctccttcat tggtgtgctg gcgtccctcc 450 gtgacaacct gtaccttctc caagcattca tgtacatcct tgggatctgc 500 ctcatcatgg agctcattgg tggcgtggtg gccttgacct tccggaacca 550 gaccattgac ttcctgaacg acaacattcg aagaggaatt gagaactact 600 atgatgatct ggacttcaaa aacatcatgg actttgttca gaaaaagttc 650 aagtgctgtg gcggggagga ctaccgagat tggagcaaga atcagtacca 700 cgactgcagt gcccctggac ccctggcctg tggggtgccc tacacctgct 750 gcatcaggaa cacgacagaa gttgtcaaca ccatgtgtgg ctacaaaact 800 ategacaagg agegttteag tgtgeaggat gteatetaeg tgeggggetg 850 caccaacgcc gtgatcatct ggttcatgga caactacacc atcatggcgt 900 gcatcetect gggcatectg ettecceagt teetgggggt getgetgaeg 950 ctgctgtaca tcacccgggt ggaggacatc atcatggagc actctgtcac 1000 tgatgggctc ctggggcccg gtgccaagcc cagcgtggag gcggcaggca 1050 cgggatgctg cttgtgctac cccaattagg gcccagcctg ccatggcagc 1100 tccaacaagg accgtctggg atagcacctc tcagtcaaca tcgtggggct 1150 ggacaggget geggeeecte tgeccaeaet cagtactgae caaagecagg 1200 gctgtgtgtg cctgtgtgta ggtcccacgg cctctgcctc cccagggagc 1250 agagcctggg cctcccctaa gaggctttcc ccgaggcagc tctggaatct 1300 gtgcccacct ggggcctggg gaacaaggcc ctcctttctc caggcctggg 1350 ctacagggga gggagagcct gaggctctgc tcagggccca tttcatctct 1400 ggcagtgcct tggcggtggt attcaaggca gttttgtagc acctgtaatt 1450 ggggagaggg agtgtgcccc tcggggcagg agggaagggc atctggggaa 1500 gggcaggagg gaagagctgt ccatgcagcc acgcccatgg ccaggttggc 1550 ctcttctcag cctcccaggt gccttgagcc ctcttgcaag ggcggctgct 1600 tccttgagcc tagtttttt ttacgtgatt tttgtaacat tcatttttt 1650

gtacagataa caggagtttc tgactaatca aagctggtat ttccccgcat 1700 gtcttattct tgcccttccc ccaaccagtt tgttaatcaa acaataaaaa 1750 catgttttgt tttgtttta aaaaaaaa 1778

<210> 123

<211> 294

<212> PRT

<213> Homo sapiens

<400> 123

Met Pro Arg Gly Asp Ser Glu Gln Val Arg Tyr Cys Ala Arg Phe
1 10 15

Ser Tyr Leu Trp Leu Lys Phe Ser Leu Ile Ile Tyr Ser Thr Val 20 25 30

Phe Trp Leu Ile Gly Ala Leu Val Leu Ser Val Gly Ile Tyr Ala
35 40 45

Glu Val Glu Arg Gln Lys Tyr Lys Thr Leu Glu Ser Ala Phe Leu
50 55 60

Ala Pro Ala Ile Ile Leu Ile Leu Gly Val Val Met Phe Met 65 70 75

Val Ser Phe Ile Gly Val Leu Ala Ser Leu Arg Asp Asn Leu Tyr 80 85 90

Leu Leu Gln Ala Phe Met Tyr Ile Leu Gly Ile Cys Leu Ile Met 95 100 105

Glu Leu Ile Gly Gly Val Val Ala Leu Thr Phe Arg Asn Gln Thr 110 115 120

Ile Asp Phe Leu Asn Asp Asn Ile Arg Arg Gly Ile Glu Asn Tyr 125 130 135

Tyr Asp Asp Leu Asp Phe Lys Asn Ile Met Asp Phe Val Gln Lys 140 145 150

Lys Phe Lys Cys Cys Gly Gly Glu Asp Tyr Arg Asp Trp Ser Lys 155 160 165

Asn Gln Tyr His Asp Cys Ser Ala Pro Gly Pro Leu Ala Cys Gly
170 175 180

Val Pro Tyr Thr Cys Cys Ile Arg Asn Thr Thr Glu Val Val Asn 185 190 195

Thr Met Cys Gly Tyr Lys Thr Ile Asp Lys Glu Arg Phe Ser Val 200 205 210

Gln Asp Val Ile Tyr Val Arg Gly Cys Thr Asn Ala Val Ile Ile 215 220 225

Trp Phe Met Asp Asn Tyr Thr Ile Met Ala Cys Ile Leu Leu Gly

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230 235 240 Ile Leu Leu Pro Gln Phe Leu Gly Val Leu Leu Thr Leu Leu Tyr Ile Thr Arg Val Glu Asp Ile Ile Met Glu His Ser Val Thr Asp 265 270 Gly Leu Leu Gly Pro Gly Ala Lys Pro Ser Val Glu Ala Ala Gly 280 Thr Gly Cys Cys Leu Cys Tyr Pro Asn 290

<210> 124

<211> 25 <212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-25

<223> Synthetic construct.

<400> 124

atcatctatt ccaccgtgtt ctggc 25

<210> 125 <211> 25 <212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-25

<223> Synthetic construct.

<400> 125

gacagagtgc tccatgatga tgtcc 25

<210> 126

<211> 50

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-50

<223> Synthetic construct.

<400> 126

cctgtctgtg ggcatctatg cagaggttga gcggcagaaa tataaaaccc 50

<210> 127

<211> 1636

<212> DNA

<213> Homo sapiens

<400> 127 gaggagcggg ccgaggactc cagcgtgccc aggtctggca tcctgcactt 50 gctgccctct gacacctggg aagatggccg gcccgtggac cttcaccctt 100 ctctgtggtt tgctggcagc caccttgatc caagccaccc tcagtcccac 150 tgcagttctc atcctcggcc caaaagtcat caaagaaaag ctgacacagg 200 agctgaagga ccacaacgcc accagcatcc tgcagcagct gccgctgctc 250 agtgccatgc gggaaaagcc agccggaggc atccctgtgc tgggcagcct 300 ggtgaacacc gtcctgaagc acatcatctg gctgaaggtc atcacagcta 350 acatcctcca gctgcaggtg aagccctcgg ccaatgacca ggagctgcta 400 gtcaagatcc ccctggacat ggtggctgga ttcaacacgc ccctggtcaa 450 gaccatcgtg gagttccaca tgacgactga ggcccaagcc accatccgca 500 tggacaccag tgcaagtggc cccacccgcc tggtcctcag tgactgtgcc 550 accagccatg ggagcctgcg catccaactg ctgtataagc tctccttcct 600 ggtgaacgcc ttagctaagc aggtcatgaa cctcctagtg ccatccctgc 650 ccaatctagt gaaaaaccag ctgtgtcccg tgatcgaggc ttccttcaat 700 ggcatgtatg cagacctcct gcagctggtg aaggtgccca tttccctcag 750 cattgaccgt ctggagtttg accttctgta tcctgccatc aagggtgaca 800 ccattcagct ctacctgggg gccaagttgt tggactcaca gggaaaggtg 850 accaagtggt tcaataactc tgcagcttcc ctgacaatgc ccaccctgga 900 caacatcccg ttcagcctca tcgtgagtca ggacgtggtg aaagctgcag 950 tggctgctgt gctctctcca gaagaattca tggtcctgtt ggactctgtg 1000 cttcctgaga gtgcccatcg gctgaagtca agcatcgggc tgatcaatga 1050 aaaggctgca gataagctgg gatctaccca gatcgtgaag atcctaactc 1100 aggacactcc cgagtttttt atagaccaag gccatgccaa ggtggcccaa 1150 ctgatcgtgc tggaagtgtt tccctccagt gaagccctcc gccctttgtt 1200 caccctgggc atcgaagcca gctcggaagc tcagttttac accaaaggtg 1250 accaacttat actcaacttg aataacatca gctctgatcg gatccagctg 1300 atgaactctg ggattggctg gttccaacct gatgttctga aaaacatcat 1350 cactgagatc atccactcca tcctgctgcc gaaccagaat ggcaaattaa 1400 gatctggggt cccagtgtca ttggtgaagg ccttgggatt cgaggcagct 1450

gaatcctcac tgaccaagga tgcccttgtg cttactccag cctccttgtg 1500 gaaacccagc tctcctgtct cccagtgaag acttggatgg cagccatcag 1550 ggaaggctgg gtcccagctg ggagtatggg tgtgagctct atagaccatc 1600 cctctctgca atcaataaac acttgcctgt gaaaaa 1636

<210> 128

<211> 484

<212> PRT

<213> Homo sapiens

<400> 128

Met Ala Gly Pro Trp Thr Phe Thr Leu Leu Cys Gly Leu Leu Ala 1 5 10 15

Ala Thr Leu Ile Gln Ala Thr Leu Ser Pro Thr Ala Val Leu Ile 20 25 30

Leu Gly Pro Lys Val Ile Lys Glu Lys Leu Thr Gln Glu Leu Lys
35 40 45

Asp His Asn Ala Thr Ser Ile Leu Gln Gln Leu Pro Leu Leu Ser 50 55 60

Ala Met Arg Glu Lys Pro Ala Gly Gly Ile Pro Val Leu Gly Ser
65 70 75

Leu Val Asn Thr Val Leu Lys His Ile Ile Trp Leu Lys Val Ile 80 85 90

Thr Ala Asn Ile Leu Gln Leu Gln Val Lys Pro Ser Ala Asn Asp 95 100 105

Gln Glu Leu Leu Val Lys Ile Pro Leu Asp Met Val Ala Gly Phe 110 115 120

Asn Thr Pro Leu Val Lys Thr Ile Val Glu Phe His Met Thr Thr 125 130 135

Glu Ala Gln Ala Thr Ile Arg Met Asp Thr Ser Ala Ser Gly Pro 140 145

Thr Arg Leu Val Leu Ser Asp Cys Ala Thr Ser His Gly Ser Leu 155 160 165

Arg Ile Gln Leu Leu Tyr Lys Leu Ser Phe Leu Val Asn Ala Leu 170 175 180

Ala Lys Gln Val Met Asn Leu Leu Val Pro Ser Leu Pro Asn Leu 185 190 195

Val Lys Asn Gln Leu Cys Pro Val Ile Glu Ala Ser Phe Asn Gly 200 205 210

Met Tyr Ala Asp Leu Leu Gln Leu Val Lys Val Pro Ile Ser Leu 215 220 225

Ser Ile Asp Arg Leu Glu Phe Asp Leu Leu Tyr Pro Ala Ile Lys Gly Asp Thr Ile Gln Leu Tyr Leu Gly Ala Lys Leu Leu Asp Ser Gln Gly Lys Val Thr Lys Trp Phe Asn Asn Ser Ala Ala Ser Leu 265 Thr Met Pro Thr Leu Asp Asn Ile Pro Phe Ser Leu Ile Val Ser 280 Gln Asp Val Val Lys Ala Ala Val Ala Ala Val Leu Ser Pro Glu 295 Glu Phe Met Val Leu Leu Asp Ser Val Leu Pro Glu Ser Ala His 305 Arg Leu Lys Ser Ser Ile Gly Leu Ile Asn Glu Lys Ala Ala Asp Lys Leu Gly Ser Thr Gln Ile Val Lys Ile Leu Thr Gln Asp Thr Pro Glu Phe Phe Ile Asp Gln Gly His Ala Lys Val Ala Gln Leu Ile Val Leu Glu Val Phe Pro Ser Ser Glu Ala Leu Arg Pro Leu Phe Thr Leu Gly Ile Glu Ala Ser Ser Glu Ala Gln Phe Tyr Thr Lys Gly Asp Gln Leu Ile Leu Asn Leu Asn Ile Ser Ser Asp Arg Ile Gln Leu Met Asn Ser Gly Ile Gly Trp Phe Gln Pro Asp Val Leu Lys Asn Ile Ile Thr Glu Ile Ile His Ser Ile Leu Leu Pro Asn Gln Asn Gly Lys Leu Arg Ser Gly Val Pro Val Ser Leu 450 Val Lys Ala Leu Gly Phe Glu Ala Ala Glu Ser Ser Leu Thr Lys Asp Ala Leu Val Leu Thr Pro Ala Ser Leu Trp Lys Pro Ser Ser 480

Pro Val Ser Gln

<210> 129

<211> 2213

<212> DNA

<213> Homo sapiens

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ttcattctta gcttcttcat ctttgtgtgg atgtgtatac tttacgcatc 1500 tttccttttg agtagagaaa ttatgtgtgt catgtggtct tctgaaaatg 1550 gaacaccatt cttcagagca cacgtctagc cctcagcaag acagttgttt 1600 ctcctcctcc ttgcatattt cctactgcgc tccagcctga gtgatagagt 1650 gagactctgt ctcaaaaaaa agtatctcta aatacaggat tataatttct 1700 gcttgagtat ggtgttaact accttgtatt tagaaagatt tcagattcat 1750 tccatctcct tagttttctt ttaaggtgac ccatctgtga taaaaatata 1800 gcttagtgct aaaatcagtg taacttatac atggcctaaa atgtttctac 1850 aaattagagt ttgtcactta ttccatttgt acctaagaga aaaataggct 1900 cagitagaaa aggactccct ggccaggcgc agtgacttac gcctgtaatc 1950 tcagcacttt gggaggccaa ggcaggcaga tcacgaggtc aggagttcga 2000 gaccatcctg gccaacatgg tgaaaccccg tctctactaa aaatataaaa 2050 attagctggg tgtggtggca ggagcctgta atcccagcta cacaggaggc 2100 tgaggcacga gaatcacttg aactcaggag atggaggttt cagtgagccg 2150 agatcacgcc actgcactcc agcctggcaa cagagcgaga ctccatctca 2200 aaaaaaaaa aaa 2213

<210> 130

<211> 335

<212> PRT

<213> Homo sapiens

<400> 130

Met Ala Ala Arg Trp Arg Phe Trp Cys Val Ser Val Thr Met Val 1 5 10 15

Val Ala Leu Leu Ile Val Cys Asp Val Pro Ser Ala Ser Ala Gln
20 25 30

Arg Lys Lys Glu Met Val Leu Ser Glu Lys Val Ser Gln Leu Met 35 40 45

Glu Trp Thr Asn Lys Arg Pro Val Ile Arg Met Asn Gly Asp Lys
50 55 60

Phe Arg Arg Leu Val Lys Ala Pro Pro Arg Asn Tyr Ser Val Ile
65 70 75

Val Met Phe Thr Ala Leu Gln Leu His Arg Gln Cys Val Val Cys 80 85 90

Lys Gln Ala Asp Glu Glu Phe Gln Ile Leu Ala Asn Ser Trp Arg 95 100 105

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Tyr Ser Ser Ala Phe Thr Asn Arg Ile Phe Phe Ala Met Val Asp
 Phe Asp Glu Gly Ser Asp Val Phe Gln Met Leu Asn Met Asn Ser
                 125
 Ala Pro Thr Phe Ile Asn Phe Pro Ala Lys Gly Lys Pro Lys Arg
 Gly Asp Thr Tyr Glu Leu Gln Val Arg Gly Phe Ser Ala Glu Gln
                 155
                                      160
 Ile Ala Arg Trp Ile Ala Asp Arg Thr Asp Val Asn Ile Arg Val
                 170
 Ile Arg Pro Pro Asn Tyr Ala Gly Pro Leu Met Leu Gly Leu Leu
 Leu Ala Val Ile Gly Gly Leu Val Tyr Leu Arg Arg Ser Asn Met
 Glu Phe Leu Phe Asn Lys Thr Gly Trp Ala Phe Ala Ala Leu Cys
 Phe Val Leu Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg
 Gly Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn
 Tyr Ile His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His
 Ile Val Leu Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu
 Leu Cys Glu Ala Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys
 Ile Met Cys Val Ala Gly Ile Gly Leu Val Val Leu Phe Phe Ser
 Trp Met Leu Ser Ile Phe Arg Ser Lys Tyr His Gly Tyr Pro Tyr
                                                         330
 Ser Phe Leu Met Ser
<210> 131
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<211> 2476

<212> DNA

<213> Homo sapiens

<400> 131

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<210> 132

<211> 536

<212> PRT

<213> Homo sapiens

<400> 132

Met Leu Leu Trp Val Ser Val Val Ala Ala Leu Ala Leu Ala 1 5 10 15

Val Leu Ala Pro Gly Ala Gly Glu Gln Arg Arg Arg Ala Ala Lys 20 25 30

Ala Pro Asn Val Val Leu Val Val Ser Asp Ser Phe Asp Gly Arg
35 40 45

Leu Thr Phe His Pro Gly Ser Gln Val Val Lys Leu Pro Phe Ile 50 55 60

Asn Phe Met Lys Thr Arg Gly Thr Ser Phe Leu Asn Ala Tyr Thr $65 \hspace{1cm} 70 \hspace{1cm} 75$

Asn Ser Pro Ile Cys Cys Pro Ser Arg Ala Ala Met Trp Ser Gly Leu Phe Thr His Leu Thr Glu Ser Trp Asn Asn Phe Lys Gly Leu 100 Asp Pro Asn Tyr Thr Trp Met Asp Val Met Glu Arg His Gly Tyr Arg Thr Gln Lys Phe Gly Lys Leu Asp Tyr Thr Ser Gly His His Ser Ile Ser Asn Arg Val Glu Ala Trp Thr Arg Asp Val Ala Phe Leu Leu Arg Gln Glu Gly Arg Pro Met Val Asn Leu Ile Arg Asn Arg Thr Lys Val Arg Val Met Glu Arg Asp Trp Gln Asn Thr Asp Lys Ala Val Asn Trp Leu Arg Lys Glu Ala Ile Asn Tyr Thr Glu Pro Phe Val Ile Tyr Leu Gly Leu Asn Leu Pro His Pro Tyr Pro Ser Pro Ser Ser Gly Glu Asn Phe Gly Ser Ser Thr Phe His Thr Ser Leu Tyr Trp Leu Glu Lys Val Ser His Asp Ala Ile Lys Ile Pro Lys Trp Ser Pro Leu Ser Glu Met His Pro Val Asp Tyr Tyr Ser Ser Tyr Thr Lys Asn Cys Thr Gly Arg Phe Thr Lys Lys Glu Ile Lys Asn Ile Arg Ala Phe Tyr Tyr Ala Met Cys Ala Glu Thr Asp Ala Met Leu Gly Glu Ile Ile Leu Ala Leu His Gln Leu 290 Asp Leu Leu Gln Lys Thr Ile Val Ile Tyr Ser Ser Asp His Gly Glu Leu Ala Met Glu His Arg Gln Phe Tyr Lys Met Ser Met Tyr Glu Ala Ser Ala His Val Pro Leu Leu Met Met Gly Pro Gly Ile Lys Ala Gly Leu Gln Val Ser Asn Val Val Ser Leu Val Asp Ile Tyr Pro Thr Met Leu Asp Ile Ala Gly Ile Pro Leu Pro Gln Asn

365 370 375 Leu Ser Gly Tyr Ser Leu Leu Pro Leu Ser Ser Glu Thr Phe Lys Asn Glu His Lys Val Lys Asn Leu His Pro Pro Trp Ile Leu Ser 395 Glu Phe His Gly Cys Asn Val Asn Ala Ser Thr Tyr Met Leu Arg 415 Thr Asn His Trp Lys Tyr Ile Ala Tyr Ser Asp Gly Ala Ser Ile 425 430 435 Leu Pro Gln Leu Phe Asp Leu Ser Ser Asp Pro Asp Glu Leu Thr 445 Asn Val Ala Val Lys Phe Pro Glu Ile Thr Tyr Ser Leu Asp Gln 455 460 Lys Leu His Ser Ile Ile Asn Tyr Pro Lys Val Ser Ala Ser Val His Gln Tyr Asn Lys Glu Gln Phe Ile Lys Trp Lys Gln Ser Ile Gly Gln Asn Tyr Ser Asn Val Ile Ala Asn Leu Arg Trp His Gln Asp Trp Gln Lys Glu Pro Arg Lys Tyr Glu Asn Ala Ile Asp Gln 520 Trp Leu Lys Thr His Met Asn Pro Arg Ala Val 530 <210> 133 <211> 1475 <212> DNA <213> Homo sapiens <400> 133 gagagaagtc agcctggcag agagactctg aaatqaggga ttagaggtgt 50 tcaaggagca agagcttcag cctgaagaca agggagcagt ccctgaagac 100 gcttctactg agaggtctgc catggcctct cttggcctcc aacttgtggg 150

gagagaagtc agcetggcag agagactetg aaatgaggga ttagaggtgt 50
teaaggagca agagetteag eetgaagaca agggageagt eeetgaagac 100
gettetaetg agaggtetge eatggeetet ettggeetee aacttgtggg 150
etacateeta ggeettetgg ggettttggg eacaetggtt geeatgetge 200
teeeeagetg gaaaacaagt tettatgteg gtgeeageat tgtgacagea 250
gttggettet eeaagggeet etggatggaa tgtgeeaeae acageacagg 300
eateaceeag tgtgacatet atageaceet tetgggeetg eeegetgaca 350
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<210> 134

<211> 230

<212> PRT

<213> Homo sapiens

<400> 134

Met Ala Ser Leu Gly Leu Gln Leu Val Gly Tyr Ile Leu Gly Leu

1 10 15

Leu Gly Leu Leu Gly Thr Leu Val Ala Met Leu Leu Pro Ser Trp
20 25 30

Lys Thr Ser Ser Tyr Val Gly Ala Ser Ile Val Thr Ala Val Gly
35 40 45

Phe Ser Lys Gly Leu Trp Met Glu Cys Ala Thr His Ser Thr Gly

50 55 60

Ile Thr Gln Cys Asp Ile Tyr Ser Thr Leu Leu Gly Leu Pro Ala 65 70 75

Asp Ile Gln Ala Ala Gln Ala Met Met Val Thr Ser Ser Ala Ile 80 85 90

Ser Ser Leu Ala Cys Ile Ile Ser Val Val Gly Met Arg Cys Thr 95 100 105

Val Phe Cys Gln Glu Ser Arg Ala Lys Asp Arg Val Ala Val Ala 110 115 120

Gly Gly Val Phe Phe Ile Leu Gly Gly Leu Leu Gly Phe Ile Pro 125 130 135

Val Ala Trp Asn Leu His Gly Ile Leu Arg Asp Phe Tyr Ser Pro 140 145 150

Leu Val Pro Asp Ser Met Lys Phe Glu Ile Gly Glu Ala Leu Tyr 155 160 165

Leu Gly Ile Ile Ser Ser Leu Phe Ser Leu Ile Ala Gly Ile Ile 170 175 180

Leu Cys Phe Ser Cys Ser Ser Gln Arg Asn Arg Ser Asn Tyr Tyr 185 190 195

Asp Ala Tyr Gln Ala Gln Pro Leu Ala Thr Arg Ser Ser Pro Arg 200 205 210

Pro Gly Gln Pro Pro Lys Val Lys Ser Glu Phe Asn Ser Tyr Ser 215 220 225

Leu Thr Gly Tyr Val

<210> 135

<211> 610

<212> DNA

<213> Homo sapiens

<400> 135

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atctcccatc tccagtaaat gtgaaagcag aagacgttt ccctgagaag 400 acatagaaag aaaatcaact ttcactaagg catctcagaa acataggcta 450 aggtaatatg tgtaccagta gagaagcctg aggaatttac aaaatgatgc 500 agctccaagc cattgtatgg cccatgtggg agactgatgg gacatggaga 550 atgacagtag attatcagga aataaataaa gtggttttc caatgtacac 600 acctgtaaaa 610

<210> 136

<211> 119

<212> PRT

<213> Homo sapiens

<400> 136

Met Val Pro Arg Ile Phe Ala Pro Ala Tyr Val Ser Val Cys Leu
1 5 10 15

Leu Leu Cys Pro Arg Glu Val Ile Ala Pro Ala Gly Ser Glu 20 25 30

Pro Trp Leu Cys Gln Pro Ala Pro Arg Cys Gly Asp Lys Ile Tyr 35 40 45

Asn Pro Leu Glu Gln Cys Cys Tyr Asn Asp Ala Ile Val Ser Leu
50 55 60

Ser Glu Thr Arg Gln Cys Gly Pro Pro Cys Thr Phe Trp Pro Cys
65 70 75

Phe Glu Leu Cys Cys Leu Asp Ser Phe Gly Leu Thr Asn Asp Phe 80 85 90

Val Val Lys Leu Lys Val Gln Gly Val Asn Ser Gln Cys His Ser 95 100 105

Ser Pro Ile Ser Ser Lys Cys Glu Ser Arg Arg Phe Pro 110 115

<210> 137

<211> 771

<212> DNA

<213> Homo sapiens

<400> 137

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ctgctttgag cagtgctgcc cctggacctt catggtgaag ctgataaacc 300 agaactgcga ctcagcccgg acctcggatg acaggctttg tcgcagtgtc 350 agctaatgga acatcagggg aacgatgact cctggattct ccttcctggg 400 tgggcctgga gaaagaggct ggtgttacct gagatctggg atgctgagtg 450 getgtttggg ggccagagaa acacacactc aactgcccac ttcattctgt 500 gacctgtctg aggcccaccc tgcagctgcc ctgaggaggc ccacaggtcc 550 ccttctagaa ttctggacag catgagatgc gtgtgctgat gggggcccag 600 ggactctgaa ccctcctgat gacccctatg gccaacatca acccggcacc 650 accccaaggc tggctggga acccttcacc cttctgtgag attttccatc 700 atctcaagtt ctcttctatc caggagcaaa gcacaggatc ataataaatt 750 tatgtacttt ataaatgaaa a 771

<210> 138

<211> 110

<212> PRT

<213> Homo sapiens

<400> 138

Met Ala Pro Arg Gly Cys Ile Val Ala Val Phe Ala Ile Phe Cys 1 5 10 15

Ile Ser Arg Leu Leu Cys Ser His Gly Ala Pro Val Ala Pro Met
20 25 30

Thr Pro Tyr Leu Met Leu Cys Gln Pro His Lys Arg Cys Gly Asp
35 40 45

Lys Phe Tyr Asp Pro Leu Gln His Cys Cys Tyr Asp Asp Ala Val
50 55 60

Val Pro Leu Ala Arg Thr Gln Thr Cys Gly Asn Cys Thr Phe Arg
65 70 75

Val Cys Phe Glu Gln Cys Cys Pro Trp Thr Phe Met Val Lys Leu .80 85 90

Ile Asn Gln Asn Cys Asp Ser Ala Arg Thr Ser Asp Asp Arg Leu
95 100 105

Cys Arg Ser Val Ser

<210> 139

<211> 2044

<212> DNA

<213> Homo sapiens

<400> 139

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<210> 140

<211> 311

<212> PRT

<213> Homo sapiens

<400> 140

Met Gly Val Pro Thr Ala Leu Glu Ala Gly Ser Trp Arg Trp Gly
1 5 10 15

Ser Leu Leu Phe Ala Leu Phe Leu Ala Ala Ser Leu Gly Pro Val 20 25 30

Ala Ala Phe Lys Val Ala Thr Pro Tyr Ser Leu Tyr Val Cys Pro 35 40 45

Glu Gly Gln Asn Val Thr Leu Thr Cys Arg Leu Leu Gly Pro Val
50 55 60

Asp Lys Gly His Asp Val Thr Phe Tyr Lys Thr Trp Tyr Arg Ser 65 70 75

Ser Arg Gly Glu Val Gln Thr Cys Ser Glu Arg Arg Pro Ile Arg 80 85 90

Asn Leu Thr Phe Gln Asp Leu His Leu His His Gly Gly His Gln
95 100 105

Ala Ala Asn Thr Ser His Asp Leu Ala Gln Arg His Gly Leu Glu
110 115 120

Ser Ala Ser Asp His His Gly Asn Phe Ser Ile Thr Met Arg Asn 125 130 135

Leu Thr Leu Leu Asp Ser Gly Leu Tyr Cys Cys Leu Val Val Glu

				140					145					150
Ile	Arg	His	His	His 155	Ser	Glu	His	Arg	Val 160	His	Gly	Ala	Met	Glu 165
Leu	Gln	Val	Gln	Thr 170	Gly	Lys	Asp	Ala	Pro 175	Ser	Asn	Cys	Val	Val 180
Tyr	Pro	Ser	Ser	Ser 185	Gln	Asp	Ser	Glu	Asn 190	Ile	Thr	Ala	Ala	Ala 195
Leu	Ala	Thr	Gly	Ala 200	Cys	Ile	Val	Gly	Ile 205	Leu	Cys	Leu	Pro	Leu 210
Ile	Leu	Leu	Leu	Val 215	Tyr	Lys	Gln	Arg	Gln 220	Ala	Ala	Ser	Asn	Arg 225
Arg	Ala	Gln	Glu	Leu 230	Val	Arg	Met	Asp	Ser 235	Asn	Ile	Gln	Gly	Ile 240
Glu	Asn	Pro	Gly	Phe 245	Glu	Ala	Ser	Pro	Pro 250	Ala	Gln	Gly	Ile	Pro 255
Glu	Ala	Lys	Val	Arg 260	His	Pro	Leu	Ser	Tyr 265	Val	Ala	Gln	Arg	Gln 270
Pro	Ser	Glu	Ser	Gly 275	Arg	His	Leu	Leu	Ser 280	Glu	Pro	Ser	Thr	Pro 285
Leu	Ser	Pro	Pro	Gly 290	Pro	Gly	Asp	Val	Phe 295	Phe	Pro	Ser	Leu	Asp 300
Pro	Val	Pro	Asp	Ser 305	Pro	Asn	Phe	Glu	Val 310	Ile				
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											_	_	_	
cctt	ctcc											iggtt	ga :	200
+ a+ a	+~~~		+~+~				عبيب							250

tctctcctc ctttcccgc gttctcttc cacctttctc ttctcccac 100 cttagacctc ccttcctgcc ctcctttcct gcccaccgct gcttcctggc 150 ccttctccga ccccgctcta gcagcagacc tcctggggtc tgtggggttga 200 tctgtggccc ctgtgcctcc gtgtcctttt cgtctccctt cctcccgact 250 ccgctcccgg accagcggcc tgaccctggg gaaaggatgg ttcccgaggt 300 gagggtcctc tcctccttgc tgggactcgc gctgctctgg ttccccctgg 350 actcccacgc tcgagcccgc ccagacatgt tctgcctttt ccatgggaag 400 agatactccc ccggcgagag ctggcacccc tacttggagc cacaaggcct 450

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<210> 142

<211> 451

<212> PRT

<213> Homo sapiens

<400> 142

Met Val Pro Glu Val Arg Val Leu Ser Ser Leu Leu Gly Leu Ala Leu Leu Trp Phe Pro Leu Asp Ser His Ala Arg Ala Arg Pro Asp Met Phe Cys Leu Phe His Gly Lys Arg Tyr Ser Pro Gly Glu Ser Trp His Pro Tyr Leu Glu Pro Gln Gly Leu Met Tyr Cys Leu Arg Cys Thr Cys Ser Glu Gly Ala His Val Ser Cys Tyr Arg Leu His Cys Pro Pro Val His Cys Pro Gln Pro Val Thr Glu Pro Gln Gln 85 Cys Cys Pro Lys Cys Val Glu Pro His Thr Pro Ser Gly Leu Arg Ala Pro Pro Lys Ser Cys Gln His Asn Gly Thr Met Tyr Gln His Gly Glu Ile Phe Ser Ala His Glu Leu Phe Pro Ser Arg Leu Pro Asn Gln Cys Val Leu Cys Ser Cys Thr Glu Gly Gln Ile Tyr Cys Gly Leu Thr Thr Cys Pro Glu Pro Gly Cys Pro Ala Pro Leu Pro Leu Pro Asp Ser Cys Cys Gln Ala Cys Lys Asp Glu Ala Ser Glu Gln Ser Asp Glu Glu Asp Ser Val Gln Ser Leu His Gly Val Arg His Pro Gln Asp Pro Cys Ser Ser Asp Ala Gly Arg Lys Arg Gly Pro Gly Thr Pro Ala Pro Thr Gly Leu Ser Ala Pro Leu Ser Phe Ile Pro Arg His Phe Arg Pro Lys Gly Ala Gly Ser Thr Thr Val Lys Ile Val Leu Lys Glu Lys His Lys Lys Ala Cys Val His Gly 255 Gly Lys Thr Tyr Ser His Gly Glu Val Trp His Pro Ala Phe Arg Ala Phe Gly Pro Leu Pro Cys Ile Leu Cys Thr Cys Glu Asp Gly 285 Arg Gln Asp Cys Gln Arg Val Thr Cys Pro Thr Glu Tyr Pro Cys

290 295 300 Arg His Pro Glu Lys Val Ala Gly Lys Cys Cys Lys Ile Cys Pro Glu Asp Lys Ala Asp Pro Gly His Ser Glu Ile Ser Ser Thr Arg 320 Cys Pro Lys Ala Pro Gly Arg Val Leu Val His Thr Ser Val Ser Pro Ser Pro Asp Asn Leu Arg Arg Phe Ala Leu Glu His Glu Ala 350 355 360 Ser Asp Leu Val Glu Ile Tyr Leu Trp Lys Leu Val Lys Asp Glu 370 Glu Thr Glu Ala Gln Arg Gly Glu Val Pro Gly Pro Arg Pro His 380 Ser Gln Asn Leu Pro Leu Asp Ser Asp Gln Glu Ser Gln Glu Ala 395 Arg Leu Pro Glu Arg Gly Thr Ala Leu Pro Thr Ala Arg Trp Pro Pro Arg Arg Ser Leu Glu Arg Leu Pro Ser Pro Asp Pro Gly Ala Glu Gly His Gly Gln Ser Arg Gln Ser Asp Gln Asp Ile Thr Lys 445 Thr <210> 143 <211> 693 <212> DNA <213> Homo sapiens <400> 143 ctagcctgcg ccaaggggta gtgagaccgc gcggcaacag cttgcggctg 50 cggggagete ccgtgggege tecgetgget gtgcaggegg ccatggatte 100 cttgcggaaa atgctgatct cagtcgcaat gctgggcgca ggggctggcg 150 tgggctacgc gctcctcgtt atcgtgaccc cgggagagcg gcggaagcag 200 gaaatgctaa aggagatgcc actgcaggac ccaaggagca gggaggaggc 250

ggccaggacc cagcagctat tgctggccac tctgcaggag gcagcgacca 300

cgcaggagaa cgtggcctgg aggaagaact ggatggttgg cggcgaaggc 350

<210> 144

<211> 93

<212> PRT

<213> Homo sapiens

<400> 144

Met Asp Ser Leu Arg Lys Met Leu Ile Ser Val Ala Met Leu Gly
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Ala Gly Ala Gly Val Gly Tyr Ala Leu Leu Val Ile Val Thr Pro 20 25 30

Gly Glu Arg Arg Lys Gln Glu Met Leu Lys Glu Met Pro Leu Gln 35 40 45

Asp Pro Arg Ser Arg Glu Glu Ala Ala Arg Thr Gln Gln Leu Leu 50 55 60

Leu Ala Thr Leu Gln Glu Ala Ala Thr Thr Gln Glu Asn Val Ala 65 70 75

Trp Arg Lys Asn Trp Met Val Gly Gly Glu Gly Gly Ala Ser Gly 80 85 90

Arg Ser Pro

<210> 145

<211> 1883

<212> DNA

<213> Homo sapiens

<400> 145

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atggtcggga cccctccaag gacagcagca ccaccttgtg gagtacatgg 200
aacgccgact agctgctta gaggaacggc tggcccagtg ccaggaccag 250
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actgctggag gtggcagaga aggagcggga ggcactcaga actgaggccg 350
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gagacccaga acccagctct gccctgtgta gagtttgatg agaaggtgac 450 tggaggccct gggaccaaag gcaagggaag aaggaatgag aagtacgata 500 tggtgacaga ctgtggctac acaatctctc aagtgagatc aatgaagatt 550 ctgaagcgat ttggtggccc agctggtcta tggaccaagg atccactggg 600 gcaaacagag aagatctacg tgttagatgg gacacagaat gacacagcct 650 ttgtcttccc aaggetgegt gacttcaccc ttgccatggc tgcccggaaa 700 gcttcccgag tccgggtgcc cttcccctgg gtaggcacag ggcagctggt 750 atatggtggc tttctttatt ttgctcggag gcctcctgga agacctggtg 800 gaggtggtga gatggagaac actttgcagc taatcaaatt ccacctggca 850 aaccgaacag tggtggacag ctcagtattc ccagcagagg ggctgatccc 900 cccctacggc ttgacagcag acacctacat cgacctggta gctgatgagg 950 aaggtctttg ggctgtctat gccacccggg aggatgacag gcacttgtgt 1000 ctggccaagt tagatccaca gacactggac acagagcagc agtgggacac 1050 accatgtccc agagagaatg ctgaggctgc ctttgtcatc tgtgggaccc 1100 tctatgtcgt ctataacacc cgtcctgcca gtcgggcccg catccagtgc 1150 tcctttgatg ccagcggcac cctgacccct gaacgggcag cactccctta 1200 ttttccccgc agatatggtg cccatgccag cctccgctat aacccccgag 1250 aacgccagct ctatgcctgg gatgatggct accagattgt ctataagctg 1300 gagatgagga agaaagagga ggaggtttga ggagctagcc ttgttttttg 1350 catctttctc actcccatac atttatatta tatccccact aaatttcttg 1400 ttcctcattc ttcaaatgtg ggccagttgt ggctcaaatc ctctatattt 1450 ttagccaatg gcaatcaaat tctttcagct cctttgtttc atacggaact 1500 ccagatcctg agtaatcctt ttagagcccg aagagtcaaa accctcaatg 1550 ttccctcctg ctctcctgcc ccatgtcaac aaatttcagg ctaaggatgc 1600 cccagaccca gggctctaac cttgtatgcg ggcaggccca gggagcaggc 1650 agcagtgttc ttcccctcag agtgacttgg ggagggagaa ataggaggag 1700 acgtccagct ctgtcctctc ttcctcactc ctcccttcag tgtcctgagg 1750 aacaggactt tctccacatt gttttgtatt gcaacatttt gcattaaaag 1800

aaaaaaaaaa aaaaaaaaaa aaa 1883

aaaa	aaaa	aaa a	aaaa	aa
<210> <211> <212> <213>	400 PR	5	apier	ns
<400> Met 1		-	Ser	T.
Ser	Gly	Pro	Leu	G.
Glu .	Arg	Arg	Leu	Α.

Ser Gly Pro Leu Gln Gly Gln Gln His His Leu Val Glu Tyr Met 20 25 30

Glu Arg Arg Leu Ala Ala Leu Glu Glu Arg Leu Ala Gln Cys Gln
35 40 45

Asp Gln Ser Ser Arg His Ala Ala Glu Leu Arg Asp Phe Lys Asn 50 55 60

Lys Met Leu Pro Leu Leu Glu Val Ala Glu Lys Glu Arg Glu Ala 65 70 75

Leu Arg Thr Glu Ala Asp Thr Ile Ser Gly Arg Val Asp Arg Leu 80 85 90

Glu Arg Glu Val Asp Tyr Leu Glu Thr Gln Asn Pro Ala Leu Pro 95 100 105

Cys Val Glu Phe Asp Glu Lys Val Thr Gly Gly Pro Gly Thr Lys 110 115 120

Gly Lys Gly Arg Arg Asn Glu Lys Tyr Asp Met Val Thr Asp Cys
125 130

Gly Tyr Thr Ile Ser Gln Val Arg Ser Met Lys Ile Leu Lys Arg 140 145 150

Phe Gly Gly Pro Ala Gly Leu Trp Thr Lys Asp Pro Leu Gly Gln 155 160 165

Thr Glu Lys Ile Tyr Val Leu Asp Gly Thr Gln Asn Asp Thr Ala 170 175 180

Phe Val Phe Pro Arg Leu Arg Asp Phe Thr Leu Ala Met Ala Ala 185 190 195

Arg Lys Ala Ser Arg Val Arg Val Pro Phe Pro Trp Val Gly Thr 200 205 210

Gly Gln Leu Val Tyr Gly Gly Phe Leu Tyr Phe Ala Arg Arg Pro 215 220 225

Pro Gly Arg Pro Gly Gly Gly Glu Met Glu Asn Thr Leu Gln 230 235 240

Leu Ile Lys Phe His Leu Ala Asn Arg Thr Val Val Asp Ser Ser 245 250 255

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Val Phe Pro Ala Glu Gly Leu Ile Pro Pro Tyr Gly Leu Thr Ala
Asp Thr Tyr Ile Asp Leu Val Ala Asp Glu Glu Gly Leu Trp Ala
                275
Val Tyr Ala Thr Arg Glu Asp Asp Arg His Leu Cys Leu Ala Lys
Leu Asp Pro Gln Thr Leu Asp Thr Glu Gln Gln Trp Asp Thr Pro
                                    310
                                                         315
Cys Pro Arg Glu Asn Ala Glu Ala Ala Phe Val Ile Cys Gly Thr
                                    325
                                                         330
Leu Tyr Val Val Tyr Asn Thr Arg Pro Ala Ser Arg Ala Arg Ile
                335
Gln Cys Ser Phe Asp Ala Ser Gly Thr Leu Thr Pro Glu Arg Ala
Ala Leu Pro Tyr Phe Pro Arg Arg Tyr Gly Ala His Ala Ser Leu
Arg Tyr Asn Pro Arg Glu Arg Gln Leu Tyr Ala Trp Asp Asp Gly
Tyr Gln Ile Val Tyr Lys Leu Glu Met Arg Lys Lys Glu Glu Glu
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Val

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<212> DNA

<213> Homo sapiens

<400> 147

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tgtagattaa gtagacaagg aatgtgaata atgcttagat cttattgatg 2000 acagagtgta tcctaatggt ttgttcatta tattacactt tcagtaaaaa 2050 aa 2052

<210> 148

<211> 500

<212> PRT

<213> Homo sapiens

<400> 148

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Ser Gly Gln Trp Gln Val Phe Gly Pro Asp Lys Pro Val Gln Ala 20 25 30

Leu Val Gly Glu Asp Ala Ala Phe Ser Cys Phe Leu Ser Pro Lys
35 40 45

Thr Asn Ala Glu Ala Met Glu Val Arg Phe Phe Arg Gly Gln Phe 50 55 60

Ser Ser Val Val His Leu Tyr Arg Asp Gly Lys Asp Gln Pro Phe
65 70 75

Met Gln Met Pro Gln Tyr Gln Gly Arg Thr Lys Leu Val Lys Asp 80 85 90

Ser Ile Ala Glu Gly Arg Ile Ser Leu Arg Leu Glu Asn Ile Thr 95 100 105

Val Leu Asp Ala Gly Leu Tyr Gly Cys Arg Ile Ser Ser Gln Ser 110 115 120

Tyr Tyr Gln Lys Ala Ile Trp Glu Leu Gln Val Ser Ala Leu Gly 125 130

Ser Val Pro Leu Ile Ser Ile Thr Gly Tyr Val Asp Arg Asp Ile 140 145 150

Gln Leu Cys Gln Ser Ser Gly Trp Phe Pro Arg Pro Thr Ala 155 160 165

Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Thr Asp Ser Arg 170 175 180

Thr Asn Arg Asp Met His Gly Leu Phe Asp Val Glu Ile Ser Leu 185 190 195

Thr Val Gln Glu Asn Ala Gly Ser Ile Ser Cys Ser Met Arg His 200 205 210

Ala His Leu Ser Arg Glu Val Glu Ser Arg Val Gln Ile Gly Asp 215 220 225

Thr Phe Phe Glu Pro Ile Ser Trp His Leu Ala Thr Lys Val Leu

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230 235 240 Gly Ile Leu Cys Cys Gly Leu Phe Phe Gly Ile Val Gly Leu Lys Ile Phe Phe Ser Lys Phe Gln Trp Lys Ile Gln Ala Glu Leu Asp 260 265 Trp Arg Arg Lys His Gly Gln Ala Glu Leu Arg Asp Ala Arg Lys His Ala Val Glu Val Thr Leu Asp Pro Glu Thr Ala His Pro Lys 290 295 300 Leu Cys Val Ser Asp Leu Lys Thr Val Thr His Arg Lys Ala Pro 305 Gln Glu Val Pro His Ser Glu Lys Arg Phe Thr Arg Lys Ser Val Val Ala Ser Gln Ser Phe Gln Ala Gly Lys His Tyr Trp Glu Val Asp Gly Gly His Asn Lys Arg Trp Arg Val Gly Val Cys Arg Asp Asp Val Asp Arg Arg Lys Glu Tyr Val Thr Leu Ser Pro Asp His Gly Tyr Trp Val Leu Arg Leu Asn Gly Glu His Leu Tyr Phe Thr Leu Asn Pro Arq Phe Ile Ser Val Phe Pro Arq Thr Pro Pro Thr Lys Ile Gly Val Phe Leu Asp Tyr Glu Cys Gly Thr Ile Ser Phe Phe Asn Ile Asn Asp Gln Ser Leu Ile Tyr Thr Leu Thr Cys Arg Phe Glu Gly Leu Leu Arg Pro Tyr Ile Glu Tyr Pro Ser Tyr Asn Glu Gln Asn Gly Thr Pro Ile Val Ile Cys Pro Val Thr Gln Glu Ser Glu Lys Glu Ala Ser Trp Gln Arg Ala Ser Ala Ile Pro Glu Thr Ser Asn Ser Glu Ser Ser Ser Gln Ala Thr Thr Pro Phe Leu 490 495 Pro Arg Gly Glu Met <210> 149

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<220>
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<223> Synthetic construct.
<400> 150
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<222> 1-45
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<400> 152
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aatgaatggc ggagccgagc gcgccatgag gagcctgccg agcctgggcg 150
geetegeect gttgtgetge geegeegeeg eegeegeegt egeeteagee 200
gcctcggcgg ggaatgtcac cggtggcggc ggggccgcgg ggcaggtgga 250
cgcgtcgccg ggccccgggt tgcggggcga gcccagccac cccttcccta 300
gggcgacggc tcccacggcc caggccccga ggaccgggcc cccgcqcgcc 350
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acceptccacc gacccctggc tgcgacttct ccagcccagt ccccggagac 400

caccectett tgggcgactg ctggaccete ttccaccace tttcaggcgc 450 cgctcggccc ctcgccgacc acccctccgg cggcggaacg cacttcgacc 500 accteteagg egeogaceag accegegeeg accaecettt egaegaceae 550 tggcccggcg ccgaccaccc ctgtagcgac caccgtaccg gcgcccacga 600 ctccccggac cccgaccccc gatctcccca gcagcagcaa cagcagcgtc 650 ctccccaccc cacctgccac cgaggccccc tcttcgcctc ctccagagta 700 tgtatgtaac tgctctgtgg ttggaagcct gaatgtgaat cgctgcaacc 750 agaccacagg gcagtgtgag tgtcggccag gttatcaggg gcttcactgt 800 gaaacctgca aagagggctt ttacctaaat tacacttctq qqctctqtca 850 gccatgtgac tgtagtccac atggagctct cagcataccq tgcaacaggt 900 aagcaacaga gggtggaact gaagtttatt ttattttagc aagggaaaaa 950 aaaaggctgc tactctcaag gaccatactg gtttaaacaa aggaggatga 1000 gggtcataga tttacaaaat attttatata cttttattct cttactttat 1050 atgttatatt taatgtcagg atttaaaaac atctaattta ctgatttagt 1100 tetteaaaag caetagagte gecaattttt etetgggata atttetgtaa 1150 atttcatggg aaaaaattat tgaagaataa atctgctttc tggaagggct 1200 ttcaggcatg aaacctgcta ggaggtttag aaatgttctt atgtttatta 1250 atataccatt ggagtttgag gaaatttgtt gtttggttta tttttctctc 1300 taatcaaaat tctacatttg tttctttgga catctaaaqc ttaacctqqq 1350 ggtaccctaa tttatttaac tagtggtaag tagactggtt ttactctatt 1400 taccagtaca tttttgagac caaaagtaga ttaagcagga attatcttta 1450 aactattatg ttatttggag gtaatttaat ctagtggaat aatgtactgt 1500 tatctaagca tttgccttgt actgcactga aagtaattat tctttgacct 1550 tatgtgaggc acttggcttt ttgtggaccc caagtcaaaa aactgaagag 1600 acagtattaa ataatgaaaa aaataatgac aggttatact cagtgtaacc 1650 tgggtataac ccaagatctg ctgccactta cgagctgtgt tccttgggca 1700 agtaatttcc tttcactgag cttgtttctt ctcaaggttg ttgtgaagat 1750 taaatgagtt gatatatata aaatgcctag cacatgtcac tcaataaatt 1800 ctggtttgtt ttaatttcaa aggaatatta tggactgaaa tgagagaaca 1850

<210> 153

<211> 258

<212> PRT

<213> Homo sapiens

<400> 153

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Ala Ala Ala Ala Ala Val Ala Ser Ala Ala Ser Ala Gly Asn 20 25 30

Val Thr Gly Gly Gly Gly Ala Ala Gly Gln Val Asp Ala Ser Pro 35 40 45

Gly Pro Gly Leu Arg Gly Glu Pro Ser His Pro Phe Pro Arg Ala 50 55 60

Thr Ala Pro Thr Ala Gln Ala Pro Arg Thr Gly Pro Pro Arg Ala 65 70 75

Thr Val His Arg Pro Leu Ala Ala Thr Ser Pro Ala Gln Ser Pro 80 85 90

Glu Thr Thr Pro Leu Trp Ala Thr Ala Gly Pro Ser Ser Thr Thr
95 100 105

Phe Gln Ala Pro Leu Gly Pro Ser Pro Thr Thr Pro Pro Ala Ala 110 115 120

Glu Arg Thr Ser Thr Thr Ser Gln Ala Pro Thr Arg Pro Ala Pro 125 130 135

Thr Thr Leu Ser Thr Thr Thr Gly Pro Ala Pro Thr Thr Pro Val 140 145 150

Ala Thr Thr Val Pro Ala Pro Thr Thr Pro Arg Thr Pro Thr Pro 155 160 165

Asp Leu Pro Ser Ser Ser Asn Ser Ser Val Leu Pro Thr Pro Pro

<400> 156

170 175 180 Ala Thr Glu Ala Pro Ser Ser Pro Pro Pro Glu Tyr Val Cys Asn Cys Ser Val Val Gly Ser Leu Asn Val Asn Arg Cys Asn Gln Thr 205 210 Thr Gly Gln Cys Glu Cys Arg Pro Gly Tyr Gln Gly Leu His Cys 220 Glu Thr Cys Lys Glu Gly Phe Tyr Leu Asn Tyr Thr Ser Gly Leu 230 235 Cys Gln Pro Cys Asp Cys Ser Pro His Gly Ala Leu Ser Ile Pro 250 Cys Asn Arg <210> 154 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 154 aactgctctg tggttggaag cctg 24 <210> 155 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 155 cagtcacatg gctgacagac ccac 24 <210> 156 <211> 38 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-38 <223> Synthetic construct.

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<213> Homo sapiens
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 ctggaccctg agcagcttct tgggccctgg tacgtgcttg cggtggcctc 150
 ccgggaaaag ggctttgcca tqqaqaaqqa catqaaqaac qtcqtqqqqq 200
 tggtggtgac cctcactcca gaaaacaacc tgcggacgct gtcctctcag 250
 cacgggctgg gagggtgtga ccagagtgtc atggacctga taaagcgaaa 300
 ctccggatgg gtgtttgaga atccctcaat aggcgtgctg gagctctqgg 350
 tgctggccac caacttcaga gactatgcca tcatcttcac tcagctggag 400
 ttcggggacg agcccttcaa caccgtggag ctgtacagtc tgacggagac 450
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 gcttcctgtc acagtagcag gcccagctgc agaaggacct cacctgtgct 550
 cacaagatcc ttctgtgagt gctgcgtccc cagtagggat ggcgccaca 600
 gggtcctgtg acctcggcca gtgtccaccc acctcgctca gcggctcccg 650
 gggcccagca ccagctcaga ataaagcgat tccacagca 689
<210> 158
<211> 163
<212> PRT
<213> Homo sapiens
<400> 158
 Met Gly Gly Leu Leu Ala Ala Phe Leu Ala Leu Val Ser Val
 Pro Arg Ala Gln Ala Val Trp Leu Gly Arg Leu Asp Pro Glu Gln
 Leu Leu Gly Pro Trp Tyr Val Leu Ala Val Ala Ser Arg Glu Lys
 Gly Phe Ala Met Glu Lys Asp Met Lys Asn Val Val Gly Val Val
Val Thr Leu Thr Pro Glu Asn Asn Leu Arg Thr Leu Ser Ser Gln
His Gly Leu Gly Gly Cys Asp Gln Ser Val Met Asp Leu Ile Lys
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Arg Asn Ser Gly Trp Val Phe Glu Asn Pro Ser Ile Gly Val Leu 105

Glu Leu Trp Val Leu Ala Thr Asn Phe Arg Asp Tyr Ala Ile Ile 110

Phe Thr Gln Leu Glu Phe Gly Asp Glu Pro Phe Asn Thr Val Glu 135

Leu Tyr Ser Leu Thr Glu Thr Ala Ser Gln Glu Ala Met Gly Leu 140
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Phe Thr Lys Trp Ser Arg Ser Leu Gly Phe Leu Ser Gln
155

<210> 159

<211> 1665

<212> DNA

<213> Homo sapiens

<400> 159

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<210> 160

<211> 463

<212> PRT

<213> Homo sapiens

<400> 160

Met Leu Leu Leu Leu Pro Leu Leu Trp Gly Arg Glu Arg Ala 1 5 10 15

Glu Gly Gln Thr Ser Lys Leu Leu Thr Met Gln Ser Ser Val Thr
20 25 30

Val Gln Glu Gly Leu Cys Val His Val Pro Cys Ser Phe Ser Tyr 35 40 45

Pro Ser His Gly Trp Ile Tyr Pro Gly Pro Val Val His Gly Tyr 50 55 60

Trp Phe Arg Glu Gly Ala Asn Thr Asp Gln Asp Ala Pro Val Ala 65 70 75

Thr Asn Asn Pro Ala Arg Ala Val Trp Glu Glu Thr Arg Asp Arg
80 85 90

Phe His Leu Leu Gly Asp Pro His Thr Lys Asn Cys Thr Leu Ser 95 100 105

Ile Arg Asp Ala Arg Arg Ser Asp Ala Gly Arg Tyr Phe Phe Arg

				110					115					120
Met	Glu	Lys	Gly	Ser 125	Ile	Lys	Trp	Asn	Tyr 130		His	His	Arg	Let 135
Ser	Val	Asn	Val	Thr 140		Leu	Thr	His	Arg 145		Asn	Ile	Leu	Ile 150
Pro	Gly	Thr	Leu	Glu 155		Gly	Cys	Pro	Gln 160		Leu	Thr	Cys	Ser 165
Val	Pro	Trp	Ala	Cys 170	Glu	Gln	Gly	Thr	Pro 175		Met	Ile	Ser	Trp 180
Ile	Gly	Thr	Ser	Val 185	Ser	Pro	Leu	Asp	Pro 190		Thr	Thr	Arg	Ser 195
Ser	Val	Leu	Thr	Leu 200	Ile	Pro	Gln	Pro	Gln 205		His	Gly	Thr	Ser 210
Leu	Thr	Суз	Gln	Val 215	Thr	Phe	Pro	Gly	Ala 220	Ser	Val	Thr	Thr	Asn 225
Lys	Thr	Val	His	Leu 230	Asn	Val	Ser	Tyr	Pro 235	Pro	Gln	Asn	Leu	Thr 240
Met	Thr	Val	Phe	Gln 245	Gly	Asp	Gly	Thr	Val 250	Ser	Thr	Val	Leu	Gly 255
Asn	Gly	Ser	Ser	Leu 260	Ser	Leu	Pro	Glu	Gly 265	Gln	Ser	Leu	Arg	Leu 270
Val	Cys	Ala	Val	Asp 275	Ala	Val	Asp	Ser	Asn 280	Pro	Pro	Ala	Arg	Leu 285
Ser	Leu	Ser	Trp	Arg 290	Gly	Leu	Thr	Leu	Cys 295	Pro	Ser	Gln	Pro	Ser 300
Asn	Pro	Gly	Val	Leu 305	Glu	Leu	Pro	Trp	Val 310	His	Leu	Arg	Asp	Ala 315
Ala	Glu	Phe	Thr	Cys 320	Arg	Ala	Gln	Asn	Pro 325	Leu	Gly	Ser	Gln	Gln 330
Val	Tyr	Leu	Asn	Val 335	Ser	Leu	Gln	Ser	Lys 340	Ala	Thr	Ser	Gly	Val 345
Thr	Gln	Gly	Val	Val 350	Gly	Gly	Ala	Gly	Ala 355	Thr	Ala	Leu	Val	Phe 360
Leu	Ser	Phe	Cys	Val 365	Ile	Phe	Val	Val	Val 370	Arg	Ser	Cys	Arg	Lys 375
Lys	Ser	Ala	Arg	Pro 380	Ala	Ala	Gly	Val	Gly 385	Asp	Thr	Gly	Ile	Glu 390
Asp	Ala	Asn	Ala	Val 395	Arg	Gly	Ser	Ala	Ser 400	Gln	Gly	Pro	Leu	Thr 405

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Glu Pro Trp Ala Glu Asp Ser Pro Pro Asp Gln Pro Pro Pro Ala
410 415 420
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Ser Ala Arg Ser Ser Val Gly Glu Gly Glu Leu Gln Tyr Ala Ser 425 430 435

Leu Ser Phe Gln Met Val Lys Pro Trp Asp Ser Arg Gly Gln Glu 440 445 450

Ala Thr Asp Thr Glu Tyr Ser Glu Ile Lys Ile His Arg 455 460

- <210> 161
- <211> 739
- <212> DNA
- <213> Homo sapiens
- <400> 161

- <210> 162
- <211> 170
- <212> PRT
- <213> Homo sapiens
- <400> 162

Met Lys Thr Leu Phe Leu Gly Val Thr Leu Gly Leu Ala Ala Ala $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Leu Ser Phe Thr Leu Glu Glu Glu Asp Ile Thr Gly Thr Trp Tyr

20 25 30

Val Lys Ala Met Val Val Asp Lys Asp Phe Pro Glu Asp Arg Arg 35 40 45

Pro Arg Lys Val Ser Pro Val Lys Val Thr Ala Leu Gly Gly Gly 50

Lys Leu Glu Ala Thr Phe Thr Phe Met Arg Glu Asp Arg Cys Ile
65 70 75

Gln Lys Lys Ile Leu Met Arg Lys Thr Glu Glu Pro Gly Lys Tyr 80 85 90

Ser Ala Tyr Gly Gly Arg Lys Leu Met Tyr Leu Gln Glu Leu Pro 95 100 105

Arg Arg Asp His Tyr Ile Phe Tyr Cys Lys Asp Gln His His Gly 110 115 120

Gly Leu Leu His Met Gly Lys Leu Val Gly Arg Asn Ser Asp Thr 125 130 135

Asn Arg Glu Ala Leu Glu Glu Phe Lys Lys Leu Val Gln Arg Lys 140 145 150

Gly Leu Ser Glu Glu Asp Ile Phe Thr Pro Leu Gln Thr Gly Ser 155 160 165

Cys Val Pro Glu His 170

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<211> 22

<212> DNA

<213> Artificial

<220>

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<222> 1-22

<223> Synthetic construct.

<400> 163

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<210> 164

<211> 26

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-26

<223> Synthetic construct.

<400> 164

ggagatgaag accetgttcc tgggtg 26

<400> 169

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<220>
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<222> 1-21
<223> Synthetic construct.
<400> 165
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<211> 25
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<222> 1-25
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<400> 166
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<211> 50
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<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 167
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<210> 168
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 168
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<210> 169
<211> 1204
<212> DNA
<213> Homo sapiens
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gttccgcaga tgcagaggtt gaggtggctg cgggactgga agtcatcggg 50
 cagaggtete acageageea aggaacetgg ggeeegetee teceeetee 100
 aggccatgag gattctgcag ttaatcctgc ttgctctggc aacagggctt 150
 gtagggggag agaccaggat catcaagggg ttcgagtgca agcctcactc 200
 ccagccctgg caggcagccc tgttcgagaa gacgcggcta ctctgtgggg 250
 cgacgctcat cgccccaga tggctcctga cagcagccca ctgcctcaag 300
 ccccgctaca tagttcacct ggggcagcac aacctccaga aggaggaggg 350
 ctgtgagcag acccggacag ccactgagtc cttcccccac cccqqcttca 400
 acaacagcct ccccaacaaa gaccaccqca atgacatcat gctggtgaag 450
 atggcatcgc cagtctccat cacctgggct gtgcgacccc tcaccctctc 500
 ctcacgctgt gtcactgctg gcaccagctg cctcatttcc ggctggggca 550
 gcacgtccag cccccagtta cgcctgcctc acaccttgcg atgcgccaac 600
 atcaccatca ttgagcacca gaagtgtgag aacgcctacc ccggcaacat 650
 cacagacacc atggtgtgt ccagcgtgca ggaaggggc aaggactcct 700
 gccagggtga ctccgggggc cctctggtct gtaaccagtc tcttcaaggc 750
 attatctcct ggggccagga tccgtgtgcg atcacccgaa agcctggtgt 800
 ctacacgaaa gtctgcaaat atgtggactg gatccaggag acgatgaaga 850
 acaattagac tggacccacc caccacagcc catcaccctc catttccact 900
 tggtgtttgg ttcctgttca ctctgttaat aagaaaccct aagccaagac 950
 cctctacgaa cattctttgg gcctcctgga ctacaggaga tgctgtcact 1000
 taataatcaa cctggggttc gaaatcagtg agacctggat tcaaattctg 1050
 ccttgaaata ttgtgactct gggaatgaca acacctggtt tgttctctgt 1100
 tgtatcccca gccccaaaga cagctcctgg ccatatatca aggtttcaat 1150
aaaa 1204
<210> 170
<211> 250
<212> PRT
<213> Homo sapiens
<400> 170
Met Arg Ile Leu Gln Leu Ile Leu Leu Ala Leu Ala Thr Gly Leu
  1
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Val Gly Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Pro
His Ser Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu
Leu Cys Gly Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala
Ala His Cys Leu Lys Pro Arg Tyr Ile Val His Leu Gly Gln His
Asn Leu Gln Lys Glu Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr
Glu Ser Phe Pro His Pro Gly Phe Asn Asn Ser Leu Pro Asn Lys
                                    100
Asp His Arg Asn Asp Ile Met Leu Val Lys Met Ala Ser Pro Val
                                    115
Ser Ile Thr Trp Ala Val Arg Pro Leu Thr Leu Ser Ser Arg Cys
Val Thr Ala Gly Thr Ser Cys Leu Ile Ser Gly Trp Gly Ser Thr
Ser Ser Pro Gln Leu Arg Leu Pro His Thr Leu Arg Cys Ala Asn
Ile Thr Ile Ile Glu His Gln Lys Cys Glu Asn Ala Tyr Pro Gly
Asn Ile Thr Asp Thr Met Val Cys Ala Ser Val Gln Glu Gly Gly
Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Asn
Gln Ser Leu Gln Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys Ala
Ile Thr Arg Lys Pro Gly Val Tyr Thr Lys Val Cys Lys Tyr Val
Asp Trp Ile Gln Glu Thr Met Lys Asn Asn
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- <210> 171
- <211> 25
- <212> DNA
- <213> Artificial
- <220>
- <221> Artificial Sequence
- <222> 1-25
- <223> Synthetic construct.

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<400> 171
 ggctgcggga ctggaagtca tcggg 25
<210> 172
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 172
 ctccaggcca tgaggattct gcag 24
<210> 173
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 173
cctctggtct gtaaccag 18
<210> 174
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 174
tctgtgatgt tgccggggta ggcg 24
<210> 175
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.
<400> 175
cgtgtagaca ccaggctttc gggtg 25
<210> 176
<211> 18
<212> DNA
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<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 176
cccttgatga tcctggtc 18
<210> 177
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 177
aggccatgag gattctgcag ttaatcctgc ttgctctggc aacagggctt 50
<210> 178
<211> 43
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-43
<223> Synthetic construct.
<400> 178
gagagaccag gatcatcaag gggttcgagt gcaagcctca ctc 43
<210> 179
<211> 907
<212> DNA
<213> Homo sapiens
<400> 179
gagcagtgtt ctgctggagc cgatgccaaa aaccatgcat ttcttattca 50
gattcattgt tttcttttat ctgtggggcc tttttactgc tcagagacaa 100
aagaaagagg agagcaccga agaagtgaaa atagaagttt tgcatcgtcc 150
agaaaactgc tctaagacaa gcaagaaggg agacctacta aatgcccatt 200
atgacggcta cctggctaaa gacggctcga aattctactg cagccggaca 250
caaaatgaag gccaccccaa atggtttgtt cttggtgttg ggcaagtcat 300
aaaaggccta gacattgcta tgacagatat gtgccctgga gaaaagcgaa 350
aagtagttat acccccttca tttgcatacg gaaaggaagg ctatgcagaa 400
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<210> 180 <211> 222 <212> PRT

<213> Homo sapiens

<400> 180

Met Pro Lys Thr Met His Phe Leu Phe Arg Phe Ile Val Phe Phe 1 5 10 15

Tyr Leu Trp Gly Leu Phe Thr Ala Gln Arg Gln Lys Lys Glu Glu 20 25 30

Ser Thr Glu Glu Val Lys Ile Glu Val Leu His Arg Pro Glu Asn
35 40 45

Cys Ser Lys Thr Ser Lys Lys Gly Asp Leu Leu Asn Ala His Tyr 50 55 60

Asp Gly Tyr Leu Ala Lys Asp Gly Ser Lys Phe Tyr Cys Ser Arg
65 70 75

Thr Gln Asn Glu Gly His Pro Lys Trp Phe Val Leu Gly Val Gly 80 85 90

Gln Val Ile Lys Gly Leu Asp Ile Ala Met Thr Asp Met Cys Pro 95 100 105

Gly Glu Lys Arg Lys Val Val Ile Pro Pro Ser Phe Ala Tyr Gly
110 115 120

Lys Glu Gly Tyr Ala Glu Gly Lys Ile Pro Pro Asp Ala Thr Leu 125 130 135

Ile Phe Glu Ile Glu Leu Tyr Ala Val Thr Lys Gly Pro Arg Ser 140 145 150

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Ile Glu Thr Phe Lys Gln Ile Asp Met Asp Asn Asp Arg Gln Leu
                 155
 Ser Lys Ala Glu Ile Asn Leu Tyr Leu Gln Arg Glu Phe Glu Lys
                                      175
 Asp Glu Lys Pro Arg Asp Lys Ser Tyr Gln Asp Ala Val Leu Glu
 Asp Ile Phe Lys Lys Asn Asp His Asp Gly Asp Gly Phe Ile Ser
                 200
                                      205
 Pro Lys Glu Tyr Asn Val Tyr Gln His Asp Glu Leu
                 215
<210> 181
<211> 22
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-22
<223> Synthetic construct.
<400> 181
gtgttctgct ggagccgatg cc 22
<210> 182
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 182
gacatggaca atgacagg 18
<210> 183
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 183
cctttcagga tgtaggag 18
<210> 184
<211> 18
<212> DNA
<213> Artificial
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<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 184
 gatgtctgcc accccaag 18
<210> 185
<211> 27
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-27
<223> Synthetic construct.
<400> 185
 gcatcctgat atgacttgtc acgtggc 27
<210> 186
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 186
tacaagaggg aagaggagtt gcac 24
<210> 187
<211> 52
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-52
<223> Synthetic construct.
<400> 187
gcccattatg acggctacct ggctaaagac ggctcgaaat tctactgcag 50
cc 52
<210> 188
<211> 573
<212> DNA
<213> Homo sapiens
<400> 188
cagaaatgca gggaccattg cttcttccag gcctctgctt tctgctgagc 50
ctctttggag ctgtgactca gaaaaccaaa acttcctgtg ctaagtgccc 100
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cccaaatgct tcctgtgtca ataacactca ctgcacctgc aaccatggat 150 atacttctgg atctgggcag aaactattca cattccctt ggagacatgt 200 aacgccaggc atggtggctc gcgcctgtaa tcccagttct ttgggaagcc 250 aaggcaggtg gatcacctga ggtcaggagt ttgagaccag cctggccaac 300 atagtgaaac cccgtgtcta ctaaaaatac aaaaatcagc cgggcgtggt 350 ggtgcatgcc tgcaatccca gttactcggg aggctgaggc aggagaatcg 400 cttgaactca ggaggcagaa gttgcagtga acccagatcc tgccattgca 450 ctccagcatg gatgacagag caagactccg tctcaaaaag aaaagatagt 500 ttcttgttc atttcgcgac tgccctcca gtgttcctc ggatccctc 550 ccaaataaag tacttatatt ctc 573

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<210> 189
<211> 74
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<211> /4
<212> PRT

<213> Homo sapiens

<400> 189

Met Gln Gly Pro Leu Leu Leu Pro Gly Leu Cys Phe Leu Leu Ser 1 5 10 15

Leu Phe Gly Ala Val Thr Gln Lys Thr Lys Thr Ser Cys Ala Lys $20 \\ 25 \\ 30$

Cys Pro Pro Asn Ala Ser Cys Val Asn Asn Thr His Cys Thr Cys 35 40 45

Asn His Gly Tyr Thr Ser Gly Ser Gly Gln Lys Leu Phe Thr Phe $50\,$

Pro Leu Glu Thr Cys Asn Ala Arg His Gly Gly Ser Arg Leu 65 70

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<210> 190
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<211> 24

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 190

agggaccatt gcttcttcca ggcc 24

<210> 191

<211> 24

<212> DNA

<213> Artificial

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<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 191
 cgttacatgt ctccaagggg aatg 24
<210> 192
<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 192
 cctgtgctaa gtgcccccca aatgcttcct gtgtcaataa cactcactgc 50
<210> 193
<211> 1091
<212> DNA
<213> Homo sapiens
<400> 193
 caagcaggtc atccccttgg tgaccttcaa agagaagcag agagggcaga 50
 ggtgggggc acagggaaag ggtgacctct gagattcccc ttttccccca 100
 gactttggaa gtgacccacc atggggctca gcatcttttt gctcctgtgt 150
 gttcttgggc tcagccaggc agccacaccg aagattttca atggcactga 200
 gtgtgggcgt aactcacagc cgtggcaggt ggggctgttt gagggcacca 250
 gcctgcgctg cgggggtgtc cttattgacc acaggtgggt cctcacagcg 300
 gctcactgca gcggcagcag gtactgggtg cgcctggggg aacacagcct 350
 cagccagctc gactggaccg agcagatccg gcacagcggc ttctctgtga 400
 cccatcccgg ctacctggga gcctcgacga gccacgagca cgacctccgg 450
 ctgctgcggc tgcgcctgcc cgtccgcgta accagcagcg ttcaacccct 500
 gcccctgccc aatgactgtg caaccgctgg caccgagtgc cacgtctcag 550
 gctggggcat caccaaccac ccacggaacc cattcccgga tctgctccag 600
 tgcctcaacc tctccatcgt ctcccatgcc acctgccatg gtgtgtatcc 650
 cgggagaatc acgagcaaca tggtgtgtgc aggcggcgtc ccggggcagg 700
 atgcctgcca gggtgattct gggggccccc tggtgtgtgg gggagtcctt 750
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caaggtctgg tgtcctgggg gtctgtgggg ccctgtggac aagatggcat 800

<210> 194

<211> 248

<212> PRT

<213> Homo sapiens

<400> 194

Met Gly Leu Ser Ile Phe Leu Leu Cys Val Leu Gly Leu Ser 1 5 10 15

Gln Ala Ala Thr Pro Lys Ile Phe Asn Gly Thr Glu Cys Gly Arg 20 25 30

As Ser Gln Pro Trp Gln Val Gly Leu Phe Glu Gly Thr Ser Leu 35 40 45

Arg Cys Gly Gly Val Leu Ile Asp His Arg Trp Val Leu Thr Ala 50 55 60

Ala His Cys Ser Gly Ser Arg Tyr Trp Val Arg Leu Gly Glu His
65 70 75

Ser Leu Ser Gln Leu Asp Trp Thr Glu Gln Ile Arg His Ser Gly 80 85 90

Phe Ser Val Thr His Pro Gly Tyr Leu Gly Ala Ser Thr Ser His 95 100 105

Glu His Asp Leu Arg Leu Arg Leu Arg Leu Pro Val Arg Val 110 115 120

Thr Ser Ser Val Gln Pro Leu Pro Leu Pro Asn Asp Cys Ala Thr 125 130 135

Ala Gly Thr Glu Cys His Val Ser Gly Trp Gly Ile Thr Asn His 140 145 150

Pro Arg Asn Pro Phe Pro Asp Leu Leu Gln Cys Leu Asn Leu Ser 155 160 165

Ile Val Ser His Ala Thr Cys His Gly Val Tyr Pro Gly Arg Ile 170 180

Thr Ser Asn Met Val Cys Ala Gly Gly Val Pro Gly Gln Asp Ala 185 190 195

Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Gly Gly Val Leu

200 205 210

Gln Gly Leu Val Ser Trp Gly Ser Val Gly Pro Cys Gly Gln Asp 215 220 225

Gly Ile Pro Gly Val Tyr Thr Tyr Ile Cys Lys Tyr Val Asp Trp 230 235 240

Ile Arg Met Ile Met Arg Asn Asn 245

<210> 195

<211> 1485

<212> DNA

<213> Homo sapiens

<400> 195

gcggccacac gcagctagcc ggagcccgga ccaggcgcct gtgcctcctc 50 ctcgtccctc gccgcgtccg cgaagectgg agccggcggg agccccgcgc 100 tcgccatgtc gggcgagctc agcaacaggt tccaaggagg gaaggcgttc 150 ggcttgctca aagcccggca ggagaggagg ctggccgaga tcaaccggga 200 gtttctgtgt gaccagaagt acagtgatga agagaacctt ccagaaaagc 250 tcacagcctt caaagagaag tacatggagt ttgacctgaa caatgaaggc 300 gagattgacc tgatgtcttt aaagaggatg atggagaagc ttggtgtccc 350 caagacccac ctggagatga agaagatgat ctcagaggtg acaggagggg 400 tcagtgacac tatatcctac cgagactttg tgaacatgat gctggggaaa 450 cggtcggctg tcctcaagtt agtcatgatg tttgaaggaa aagccaacga 500 gagcagcccc aagccagttg gcccccctcc agagagagac attgctagcc 550 tgccctgagg accccgcctg gactccccag ccttcccacc ccatacctcc 600 ctcccgatct tgctgccctt cttgacacac tgtgatctct ctctctca 650 tttgtttggt cattgagggt ttgtttgtgt tttcatcaat gtctttgtaa 700 agcacaaatt atctgcctta aaggggctct gggtcgggga atcctgagcc 750 ttgggtcccc tccctctt cttccctcct tccccgctcc ctgtgcagaa 800 gggctgatat caaaccaaaa actagagggg gcagggccag ggcagggagg 850 cttccagcct gtgttcccct cacttggagg aaccagcact ctccatcctt 900 tcagaaagtc tccaagccaa gttcaggctc actgacctgg ctctgacgag 950 gaccccagge cactetqaqa aqacettqqa qtaqqqacaa qqetqcaqqq 1000 cctctttcgg gtttccttgg acagtgccat ggttccagtg ctctggtgtc 1050 acccaggaca cagccacteg gggccccgct gccccagctg atccccacte 1100 attccacacc tetteteate etcagtgatg tgaaggtggg aaggaaagga 1150 gettggeatt gggagccett caagaaggta ecagaaggaa ecetecagte 1200 etgetetetg gccacacetg tgeaggeage tgagaggeag egtgeageee 1250 tactgteeet tactggggea geagaggget teggaggeag aagtgaggee 1300 tggggtttgg ggggaaaggt eageteagtg etgtteeaee ttttagggag 1350 gatactgagg ggaccaggat gggagaatga ggagtaaaat geteaeggea 1400 aagteageag eactggtaag ecaagactga gaaatacaag gttgettgte 1450 tgaccccaat etgettgaaa aaaaaaaaa aaaaa 1485

<210> 196

<211> 150

<212> PRT

<213> Homo sapiens

<400> 196

Met Ser Gly Glu Leu Ser Asn Arg Phe Gln Gly Gly Lys Ala Phe 1 5 10 15

Gly Leu Leu Lys Ala Arg Gln Glu Arg Arg Leu Ala Glu Ile Asn 20 25 30

Arg Glu Phe Leu Cys Asp Gln Lys Tyr Ser Asp Glu Glu Asn Leu 35 40 45

Pro Glu Lys Leu Thr Ala Phe Lys Glu Lys Tyr Met Glu Phe Asp
50 55 60

Leu Asn Asn Glu Gly Glu Ile Asp Leu Met Ser Leu Lys Arg Met
65 70 75

Met Glu Lys Leu Gly Val Pro Lys Thr His Leu Glu Met Lys Lys 80 85 90

Met Ile Ser Glu Val Thr Gly Gly Val Ser Asp Thr Ile Ser Tyr 95 100 105

Arg Asp Phe Val Asn Met Met Leu Gly Lys Arg Ser Ala Val Leu 110 115 120

Lys Leu Val Met Met Phe Glu Gly Lys Ala Asn Glu Ser Ser Pro 125 130 135

Lys Pro Val Gly Pro Pro Pro Glu Arg Asp Ile Ala Ser Leu Pro 140 145 150

<210> 197

<211> 4842

<212> DNA

<213> Homo sapiens

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Asp Cys His Gly Leu Gly Leu Arg Ala Val Pro Arg Gly Ile Pro 50 55 60

Ile Thr Lys Met Asp Phe Ala Gly Leu Lys Asn Leu Arg Val Leu 80 85 90

His Leu Glu Asp Asn Gln Val Ser Val Ile Glu Arg Gly Ala Phe 95 100 105

Gln Asp Leu Lys Gln Leu Glu Arg Leu Arg Leu Asn Lys Asn Lys 110 115 120

Leu Gln Val Leu Pro Glu Leu Leu Phe Gln Ser Thr Pro Lys Leu 125 130 135

Thr Arg Leu Asp Leu Ser Glu Asn Gln Ile Gln Gly Ile Pro Arg 140 145 150

Lys Ala Phe Arg Gly Ile Thr Asp Val Lys Asn Leu Gln Leu Asp 155 160 165

Asn Asn His Ile Ser Cys Ile Glu Asp Gly Ala Phe Arg Ala Leu Arg Asp Leu Glu Ile Leu Thr Leu Asn Asn Asn Ile Ser Arg 185 Ile Leu Val Thr Ser Phe Asn His Met Pro Lys Ile Arg Thr Leu Arg Leu His Ser Asn His Leu Tyr Cys Asp Cys His Leu Ala Trp 215 Leu Ser Asp Trp Leu Arg Gln Arg Arg Thr Val Gly Gln Phe Thr 230 235 Leu Cys Met Ala Pro Val His Leu Arg Gly Phe Asn Val Ala Asp 250 Val Gln Lys Lys Glu Tyr Val Cys Pro Ala Pro His Ser Glu Pro Pro Ser Cys Asn Ala Asn Ser Ile Ser Cys Pro Ser Pro Cys Thr Cys Ser Asn Asn Ile Val Asp Cys Arg Gly Lys Gly Leu Met Glu Ile Pro Ala Asn Leu Pro Glu Gly Ile Val Glu Ile Arg Leu Glu Gln Asn Ser Ile Lys Ala Ile Pro Ala Gly Ala Phe Thr Gln Tyr Lys Lys Leu Lys Arg Ile Asp Ile Ser Lys Asn Gln Ile Ser Asp Ile Ala Pro Asp Ala Phe Gln Gly Leu Lys Ser Leu Thr Ser Leu Val Leu Tyr Gly Asn Lys Ile Thr Glu Ile Ala Lys Gly Leu Phe Asp Gly Leu Val Ser Leu Gln Leu Leu Leu Leu Asn Ala Asn Lys 385 Ile Asn Cys Leu Arg Val Asn Thr Phe Gln Asp Leu Gln Asn Leu Asn Leu Leu Ser Leu Tyr Asp Asn Lys Leu Gln Thr Ile Ser Lys Gly Leu Phe Ala Pro Leu Gln Ser Ile Gln Thr Leu His Leu Ala Gln Asn Pro Phe Val Cys Asp Cys His Leu Lys Trp Leu Ala Asp Tyr Leu Gln Asp Asn Pro Ile Glu Thr Ser Gly Ala Arg Cys Ser

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Lys	Lys	Phe	Arg	Cys 485	Ser	Gly	Ser	Glu	Asp 490	Tyr	Arg	Ser	Arg	Phe 495
Ser	Ser	Glu	Суѕ	Phe 500	Met	Asp	Leu	Val	Cys 505	Pro	Glu	Lys	Cys	Arg 510
Cys	Glu	Gly	Thr	Ile 515	Val	Asp	Cys	Ser	Asn 520	Gln	Lys	Leu	Val	Arg 525
Ile	Pro	Ser	His	Leu 530	Pro	Glu	Tyr	Val	Thr 535	Asp	Leu	Arg	Leu	Asn 540
Asp	Asn	Glu	Val	Ser 545	Val	Leu	Glu	Ala	Thr 550	Gly	Ile	Phe	Lys	Lys 555
Leu	Pro	Asn	Leu	Arg 560	Lys	Ile	Asn	Leu	Ser 565	Asn	Asn	Lys	Ile	Lys 570
Glu	Val	Arg	Glu	Gly 575	Ala	Phe	Asp	Gly	Ala 580	Ala	Ser	Val	Gln	Glu 585
Leu	Met	Leu	Thr	Gly 590	Asn	Gln	Leu	Glu	Thr 595	Val	His	Gly	Arg	Val 600
Phe	Arg	Gly	Leu	Ser 605	Gly	Leu	Lys	Thr	Leu 610	Met	Leu	Arg	Ser	Asn 615
Leu	Ile	Ser	Cys	Val 620	Ser	Asn	Asp	Thr	Phe 625	Ala	Gly	Leu	Ser	Ser 630
Val	Arg	Leu	Leu	Ser 635	Leu	Tyr	Asp	Asn	Arg 640	Ile	Thr	Thr	Ile	Thr 645
Pro	Gly	Ala	Phe	Thr 650	Thr	Leu	Val	Ser	Leu 655	Ser	Thr	Ile	Asn	Leu 660
Leu	Ser	Asn	Pro	Phe 665	Asn	Cys	Asn	Cys	His 670	Leu	Ala	Trp	Leu	Gly 675
Lys	Trp	Leu	Arg	Lys 680	Arg	Arg	Ile	Val	Ser 685	Gly	Asn	Pro	Arg	Cys 690
Gln	Lys	Pro	Phe	Phe 695	Leu	Lys	Glu	Ile	Pro 700	Ile	Gln	Asp	Val	Ala 705
Ile	Gln	Asp	Phe	Thr 710	Cys	Asp	Gly	Asn	Glu 715	Glu	Ser	Ser	Cys	Gln 720
Leu	Ser	Pro	Arg	Cys 725	Pro	Glu	Gln	Cys	Thr 730	Cys	Met	Glu	Thr	Val 735
Val	Arg	Cys	Ser	Asn 740	Lys	Gly	Leu	Arg	Ala 745	Leu	Pro	Arg	Gly	Met 750

Pro Lys Asp Val Thr Glu Leu Tyr Leu Glu Gly Asn His Leu Thr Ala Val Pro Arq Glu Leu Ser Ala Leu Arq His Leu Thr Leu Ile Asp Leu Ser Asn Asn Ser Ile Ser Met Leu Thr Asn Tyr Thr Phe Ser Asn Met Ser His Leu Ser Thr Leu Ile Leu Ser Tyr Asn Arg 805 800 Leu Arg Cys Ile Pro Val His Ala Phe Asn Gly Leu Arg Ser Leu 820 Arg Val Leu Thr Leu His Gly Asn Asp Ile Ser Ser Val Pro Glu Gly Ser Phe Asn Asp Leu Thr Ser Leu Ser His Leu Ala Leu Gly Thr Asn Pro Leu His Cys Asp Cys Ser Leu Arg Trp Leu Ser Glu Trp Val Lys Ala Gly Tyr Lys Glu Pro Gly Ile Ala Arg Cys Ser Ser Pro Glu Pro Met Ala Asp Arg Leu Leu Thr Thr Pro Thr His Arg Phe Gln Cys Lys Gly Pro Val Asp Ile Asn Ile Val Ala Lys Cys Asn Ala Cys Leu Ser Ser Pro Cys Lys Asn Asn Gly Thr Cys Thr Gln Asp Pro Val Glu Leu Tyr Arg Cys Ala Cys Pro Tyr Ser Tyr Lys Gly Lys Asp Cys Thr Val Pro Ile Asn Thr Cys Ile Gln Asn Pro Cys Gln His Gly Gly Thr Cys His Leu Ser Asp Ser His Lys Asp Gly Phe Ser Cys Ser Cys Pro Leu Gly Phe Glu Gly Gln Arg Cys Glu Ile Asn Pro Asp Asp Cys Glu Asp Asn Asp Cys 1005 Glu Asn Asn Ala Thr Cys Val Asp Gly Ile Asn Asn Tyr Val Cys Ile Cys Pro Pro Asn Tyr Thr Gly Glu Leu Cys Asp Glu Val Ile 1025 Asp His Cys Val Pro Glu Leu Asn Leu Cys Gln His Glu Ala Lys

1040 1045 1050

Cys Ile Pro Leu Asp Lys Gly Phe Ser Cys Glu Cys Val Pro Gly
1055 1060 1065

Tyr Ser Gly Lys Leu Cys Glu Thr Asp Asn Asp Cys Val Ala 1070 1075 1080

His Lys Cys Arg His Gly Ala Gln Cys Val Asp Thr Ile Asn Gly
1085 1090 1095

Tyr Thr Cys Thr Cys Pro Gln Gly Phe Ser Gly Pro Phe Cys Glu 1100 1105 1110

His Pro Pro Pro Met Val Leu Leu Gln Thr Ser Pro Cys Asp Gln
1115 1120 1125

Tyr Glu Cys Gln Asn Gly Ala Gln Cys Ile Val Val Gln Glu 1130 1135 1140

Pro Thr Cys Arg Cys Pro Pro Gly Phe Ala Gly Pro Arg Cys Glu 1145 1150 1155

Lys Leu Ile Thr Val Asn Phe Val Gly Lys Asp Ser Tyr Val Glu 1160 1165 1170

Leu Ala Ser Ala Lys Val Arg Pro Gln Ala Asn Ile Ser Leu Gln
1175 1180 1185

Val Ala Thr Asp Lys Asp Asn Gly Ile Leu Leu Tyr Lys Gly Asp 1190 1195 1200

Asn Asp Pro Leu Ala Leu Glu Leu Tyr Gln Gly His Val Arg Leu 1205 1210 1215

Val Tyr Asp Ser Leu Ser Ser Pro Pro Thr Thr Val Tyr Ser Val 1220 1225 1230

Glu Thr Val Asn Asp Gly Gln Phe His Ser Val Glu Leu Val Thr $1235 \hspace{1.5cm} 1240 \hspace{1.5cm} 1245$

Leu Asn Gln Thr Leu Asn Leu Val Val Asp Lys Gly Thr Pro Lys 1250 1255 1260

Ser Leu Gly Lys Leu Gln Lys Gln Pro Ala Val Gly Ile Asn Ser 1265 1270 1275

Pro Leu Tyr Leu Gly Gly Ile Pro Thr Ser Thr Gly Leu Ser Ala 1280 1285 1290

Leu Arg Gln Gly Thr Asp Arg Pro Leu Gly Gly Phe His Gly Cys 1295 1300 1305

Ile His Glu Val Arg Ile Asn Asn Glu Leu Gln Asp Phe Lys Ala 1310 1315 1320

Leu Pro Pro Gln Ser Leu Gly Val Ser Pro Gly Cys Lys Ser Cys 1325 1330 1335 Thr Val Cys Lys His Gly Leu Cys Arg Ser Val Glu Lys Asp Ser 1340 1345 1350

Val Val Cys Glu Cys Arg Pro Gly Trp Thr Gly Pro Leu Cys Asp 1355 1360 1365

Gln Glu Ala Arg Asp Pro Cys Leu Gly His Arg Cys His His Gly
1370 1375 1380

Lys Cys Val Ala Thr Gly Thr Ser Tyr Met Cys Lys Cys Ala Glu 1385 1390 1395

Gly Tyr Gly Gly Asp Leu Cys Asp Asn Lys Asn Asp Ser Ala Asn 1400 1405 1410

Ala Cys Ser Ala Phe Lys Cys His His Gly Gln Cys His Ile Ser 1415 1420 1425

Asp Gln Gly Glu Pro Tyr Cys Leu Cys Gln Pro Gly Phe Ser Gly
1430 1435 1440

Glu His Cys Gln Glu Asn Pro Cys Leu Gly Gln Val Val Arg 1445 1450 1455

Glu Val Ile Arg Arg Gln Lys Gly Tyr Ala Ser Cys Ala Thr Ala 1460 1465 1470

Ser Lys Val Pro Ile Met Glu Cys Arg Gly Gly Cys Gly Pro Gln 1475 1480 1485

Cys Cys Gln Pro Thr Arg Ser Lys Arg Arg Lys Tyr Val Phe Gln 1490 1495 1500

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 cgggcattct gaccctcatt ggctgcctgg tcacaggcgc cgagtccaaa 200
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 Asn Trp Ile Cys Met Ala Tyr Tyr Glu Ser Gly Tyr Asn Thr Thr
 Ala Pro Thr Val Leu Asp Asp Gly Ser Ile Asp Tyr Gly Ile Phe
 Gln Ile Asn Ser Phe Ala Trp Cys Arg Arg Gly Lys Leu Lys Glu
                                       85
 Asn Asn His Cys His Val Ala Cys Ser Ala Leu Ile Thr Asp Asp
 Leu Thr Asp Ala Ile Ile Cys Ala Arg Lys Ile Val Lys Glu Thr
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 ctttttacct tggtgtctgc ctgtatccca gtgttcaggc tggctagacg 200
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<212> PRT <213> Homo sapiens

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265

Pro Asp Pro Val His Phe Ser Glu Ala Ile Glu Lys Phe Ile Arg 275 280 285

Glu Pro Ser Leu Lys Ala Thr Met Gly Leu Ala Gly Arg Ala Arg
290 295 300

Val Lys Glu Lys Phe Ser Pro Glu Ala Phe Thr Glu Gln Leu Tyr 305 310 315

Arg Tyr Val Thr Lys Leu Leu Val 320

<210> 211

<211> 1554

<212> DNA

<213> Homo sapiens

<400> 211

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ccaa 155

<210> 212

<211> 462

<212> PRT

<213> Homo sapiens

<400> 212

Met Leu Asp Phe Ala Ile Phe Ala Val Thr Phe Leu Leu Ala Leu 1 5 10 15

Val Gly Ala Val Leu Tyr Leu Tyr Pro Ala Ser Arg Gln Ala Ala 20 25 30

Gly Ile Pro Gly Ile Thr Pro Thr Glu Glu Lys Asp Gly Asn Leu 35 40 45

Pro Asp Ile Val Asn Ser Gly Ser Leu His Glu Phe Leu Val Asn 50 55 60

Leu His Glu Arg Tyr Gly Pro Val Val Ser Phe Trp Phe Gly Arg
65 70 75

Arg Leu Val Val Ser Leu Gly Thr Val Asp Val Leu Lys Gln His 80 85 90

Ile Asn Pro Asn Lys Thr Ser Asp Pro Phe Glu Thr Met Leu Lys
95 100 105

Ser Leu Leu Arg Tyr Gln Ser Gly Gly Gly Ser Val Ser Glu Asn $110 \\ \hspace{1.5cm}115 \\ \hspace{1.5cm}120$

His Met Arg Lys Lys Leu Tyr Glu Asn Gly Val Thr Asp Ser Leu $125 \hspace{1.5cm} 130 \hspace{1.5cm} 135$

Lys Ser Asn Phe Ala Leu Leu Leu Lys Leu Ser Glu Glu Leu Leu

				140					145					150
Asp	Lys	Trp	Leu	Ser 155	Tyr	Pro	Glu	Thr	Gln 160	His	Val	Pro	Leu	Ser 165
Gln	His	Met	Leu	Gly 170	Phe	Ala	Met	Lys	Ser 175	Val	Thr	Gln	Met	Val 180
Met	Gly	Ser	Thr	Phe 185	Glu	Asp	Asp	Gln	Glu 190	Val	Ile	Arg	Phe	Gln 195
Lys	Asn	His	Gly	Thr 200	Val	Trp	Ser	Glu	Ile 205	Gly	Lys	Gly	Phe	Leu 210
Asp	Gly	Ser	Leu	Asp 215	Lys	Asn	Met	Thr	Arg 220	Lys	Lys	Gln	Tyr	Glu 225
Asp	Ala	Leu	Met	Gln 230	Leu	Glu	Ser	Val	Leu 235	Arg	Asn	Ile	Ile	Lys 240
Glu	Arg	Lys	Gly	Arg 245	Asn	Phe	Ser	Gln	His 250	Ile	Phe	Ile	Asp	Ser 255
Leu	Val	Gln	Gly	Asn 260	Leu	Asn	Asp	Gln	Gln 265	Ile	Leu	Glu	Asp	Ser 270
Met	Ile	Phe	Ser	Leu 275	Ala	Ser	Суз	Ile	Ile 280	Thr	Ala	Lys	Leu	Cys 285
Thr	Trp	Ala	Ile	Cys 290	Phe	Leu	Thr	Thr	Ser 295	Glu	Glu	Val	Gln	Lys 300
Lys	Leu	Tyr	Glu	Glu 305	Ile	Asn	Gln	Val	Phe 310	Gly	Asn	Gly	Pro	Val 315
Thr	Pro	Glu	Lys	Ile 320	Glu	Gln	Leu	Arg	Tyr 325	Cys	Gln	His	Val	Leu 330
Cys	Glu	Thr	Val	Arg 335	Thr	Ala	Lys	Leu	Thr 340	Pro	Val	Ser	Ala	Gln 345
Leu	Gln	Asp	Ile	Glu 350	Gly	Lys	Ile	Asp	Arg 355	Phe	Ile	Ile	Pro	Arg 360
Glu	Thr	Leu	Val	Leu 365	Tyr	Ala	Leu	Gly	Val 370	Val	Leu	Gln	Asp	Pro 375
Asn	Thr	Trp	Pro	Ser 380	Pro	His	Lys	Phe	Asp 385	Pro	Asp	Arg	Phe	Asp 390
Asp	Glu	Leu	Val	Met 395	Lys	Thr	Phe	Ser	Ser 400	Leu	Gly	Phe	Ser	Gly 405
Thr	Gln	Glu	Cys	Pro 410	Glu	Leu	Arg	Phe	Ala 415	Tyr	Met	Val	Thr	Thr 420
Val	Leu	Leu	Ser	Val 425	Leu	Val	Lys	Arg	Leu 430	His	Leu	Leu	Ser	Val 435

Glu Gly Gln Val Ile Glu Thr Lys Tyr Glu Leu Val Thr Ser Ser 440 445 450

Arg Glu Glu Ala Trp Ile Thr Val Ser Lys Arg Tyr 455 460

- <210> 213
- <211> 759
- <212> DNA
- <213> Homo sapiens
- <400> 213
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- tccagcctca gagaccgccg cccttgtccc cgagggccat gggccgggtc 100
- tcagggcttg tgccctctcg cttcctgacg ctcctggcgc atctggtggt 150
- cgtcatcacc ttattctggt cccgggacag caacatacag gcctgcctgc 200
- ctctcacgtt caccccgag gagtatgaca agcaggacat tcagctggtg 250
- gccgcgctct ctgtcaccct gggcctcttt gcagtggagc tggccggttt 300
- cctctcagga gtctccatgt tcaacagcac ccagagcctc atctccattg 350
- gggctcactg tagtgcatcc gtggccctgt ccttcttcat attcgagcgt 400
- tgggagtgca ctacgtattg gtacattttt gtcttctgca gtgcccttcc 450
- agetgteact gaaatggett tattegteac egtetttggg etgaaaaaga 500
- aacccttctg attaccttca tgacgggaac ctaaggacga agcctacagg 550
- ggcaagggcc gcttcgtatt cctggaagaa ggaaggcata ggcttcggtt 600
- ttcccctcgg aaactgcttc tgctggagga tatgtgttgg aataattacg 650
- tcttgagtct gggattatcc gcattgtatt tagtgctttg taataaaata 700
- tgttttgtag taacattaag acttatatac agttttaggg gacaattaaa 750
- aaaaaaaaa 759
- <210> 214
- <211> 140
- <212> PRT <213> Homo sapiens
- <400> 214
- Met Gly Arg Val Ser Gly Leu Val Pro Ser Arg Phe Leu Thr Leu 1 5 10 15
- Leu Ala His Leu Val Val Val Ile Thr Leu Phe Trp Ser Arg Asp 20 25 30
- Ser Asn Ile Gln Ala Cys Leu Pro Leu Thr Phe Thr Pro Glu Glu 35 40 45

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Tyr Asp Lys Gln Asp Ile Gln Leu Val Ala Ala Leu Ser Val Thr
50 55 60
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Leu Gly Leu Phe Ala Val Glu Leu Ala Gly Phe Leu Ser Gly Val
65 70 75

Ser Met Phe Asn Ser Thr Gln Ser Leu Ile Ser Ile Gly Ala His 80 85 90

Cys Ser Ala Ser Val Ala Leu Ser Phe Phe Ile Phe Glu Arg Trp 95 100 105

Glu Cys Thr Thr Tyr Trp Tyr Ile Phe Val Phe Cys Ser Ala Leu 110 115 120

Pro Ala Val Thr Glu Met Ala Leu Phe Val Thr Val Phe Gly Leu 125 130 135

Lys Lys Lys Pro Phe 140

<210> 215

<211> 697

<212> DNA

<213> Homo sapiens

<400> 215

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<210> 216

<211> 196

<212> PRT

<213> Homo sapiens

4	<400>	> 216	5												
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	Leu	Arg	Leu	Gly	Ala 20	Ala	Gln	Glu	Thr	Glu 25	Asp	Pro	Ala	Cys	Cys 30
	Ser	Pro	Ile	Val	Pro 35	Arg	Asn	Glu	Trp	Lys 40	Ala	Leu	Ala	Ser	Glu 45
	Суз	Ala	Gln	His	Leu 50	Ser	Leu	Pro	Leu	Arg 55	Tyr	Val	Val	Val	Ser 60
	His	Thr	Ala	Gly	Ser 65	Ser	Cys	Asn	Thr	Pro 70	Ala	Ser	Cys	Gln	Gln 75
	Gln	Ala	Arg	Asn	Val 80	Gln	His	Tyr	His	Met 85	Lys	Thr	Leu	Gly	Trp 90
	Суз	Asp	Val	Gly	Tyr 95	Asn	Phe	Leu	Ile	Gly 100	Glu	Asp	Gly	Leu	Val 105
	Tyr	Glu	Gly	Arg	Gly 110	Trp	Asn	Phe	Thr	Gly 115	Ala	His	Ser	Gly	His 120
	Leu	Trp	Asn	Pro	Met 125	Ser	Ile	Gly	Ile	Ser 130	Phe	Met	Gly	Asn	Tyr 135
	Met	Asp	Arg	Val	Pro 140	Thr	Pro	Gln	Ala	Ile 145	Arg	Ala	Ala	Gln	Gly 150
	Leu	Leu	Ala	Cys	Gly 155	Val	Ala	Gln	Gly	Ala 160	Leu	Arg	Ser	Asn	Tyr 165
	Val	Leu	Lys	Gly	His 170	Arg	Asp	Val	Gln	Arg 175	Thr	Leu	Ser	Pro	Gly 180
	Asn	Gln	Leu	Tyr	His 185	Leu	Ile	Gln	Asn	Trp 190	Pro	His	Tyr	Arg	Ser 195
	Dana														

Pro

<210> 217

<211> 1871

<212> DNA

<213> Homo sapiens

<400> 217

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geggggeeae ateteaeeta agteeegeee catggeeaat teeaetetee 250 tagggctgct ggccccgcct ggggaggctt ggggcattct tgggcagccc 300 cccaaccgcc cgaaccacag cccccaccc tcagccaagg tgaagaaaat 350 ctttggctgg ggcgacttct actccaacat caagacggtg gccctgaacc 400 tgctcgtcac agggaagatt gtggaccatg gcaatgggac cttcagcgtc 450 cacttccaac acaatgccac aggccaggga aacatctcca tcagcctcgt 500 gccccccagt aaagctgtag agttccacca ggaacagcag atcttcatcg 550 aagccaaggc ctccaaaatc ttcaactgcc ggatggagtg ggagaaggta 600 gaacggggcc gccggacctc gctttgcacc cacgacccag ccaagatctg 650 ctcccgagac cacgetcaga getcagecae etggagetge teccagecet 700 tcaaagtcgt ctgtgtctac atcgccttct acagcacgga ctatcggctg 750 gtccagaagg tgtgcccaga ttacaactac catagtgata ccccctacta 800 ggacaggcct gcccatgcag gagaccatct ggacaccggg cagggaaggg 900 gttgggcctc aggcagggag gggggtggag acgaggagat gccaagtggg 950 gccagggcca agtctcaagt ggcagagaaa gggtcccaag tgctggtccc 1000 aacctgaagc tgtggagtga ctagatcaca ggagcactgg aggaggagtg 1050 ggctctctgt gcagcctcac agggctttgc cacggagcca cagagagatg 1100 ctgggtcccc gaggcctgtg ggcaggccga tcagtgtggc cccagatcaa 1150 gtcatgggag gaagctaagc ccttggttct tgccatcctg aggaaagata 1200 gcaacaggga gggggagatt tcatcagtgt ggacagcctg tcaacttagg 1250 atggatgget gagagggett cetaggagee agteageagg gtggggtggg 1300 gccagaggag ctctccagcc ctgcctagtg ggcgccctga gccccttgtc 1350 gtgtgctgag catggcatga ggctgaagtg gcaaccctgg ggtctttgat 1400 gtcttgacag attgaccatc tgtctccagc caggccaccc ctttccaaaa 1450 ttccctcttc tgccagtact ccccctgtac cacccattgc tgatggcaca 1500 cccatcctta agctaagaca ggacgattgt ggtcctccca cactaaggcc 1550 acageceate egegtgetgt gtgteeetet tecaececaa eeeetgetgg 1600 ctcctctggg agcatccatg tcccggagag gggtccctca acagtcagcc 1650

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<210> 218

<211> 252

<212> PRT

<213> Homo sapiens

<400> 218

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Leu Tyr Leu Val Ile Cys Gly Gln Asp Asp Gly Pro Pro Gly Ser 20 25 30

Glu Asp Pro Glu Arg Asp Asp His Glu Gly Gln Pro Arg Pro Arg
35 40 45

Val Pro Arg Lys Arg Gly His Ile Ser Pro Lys Ser Arg Pro Met 50 55 60

Ala Asn Ser Thr Leu Leu Gly Leu Leu Ala Pro Pro Gly Glu Ala 65 70 75

Trp Gly Ile Leu Gly Gln Pro Pro Asn Arg Pro Asn His Ser Pro 80 85 90

Pro Pro Ser Ala Lys Val Lys Lys Ile Phe Gly Trp Gly Asp Phe 95 100 105

Tyr Ser Asn Ile Lys Thr Val Ala Leu Asn Leu Leu Val Thr Gly
110 115 120

Lys Ile Val Asp His Gly Asn Gly Thr Phe Ser Val His Phe Gln 125 130 135

His Asn Ala Thr Gly Gln Gly Asn Ile Ser Ile Ser Leu Val Pro 140 145 150

Pro Ser Lys Ala Val Glu Phe His Gln Glu Gln Gln Ile Phe Ile 155 160 165

Glu Ala Lys Ala Ser Lys Ile Phe Asn Cys Arg Met Glu Trp Glu
170 180

Lys Val Glu Arg Gly Arg Arg Thr Ser Leu Cys Thr His Asp Pro 185 190 195

Ala Lys Ile Cys Ser Arg Asp His Ala Gln Ser Ser Ala Thr Trp 200 205 210

Ser Cys Ser Gln Pro Phe Lys Val Val Cys Val Tyr Ile Ala Phe 215 220 225

Tyr Ser Thr Asp Tyr Arg Leu Val Gln Lys Val Cys Pro Asp Tyr
230 235 240

Asn Tyr His Ser Asp Thr Pro Tyr Tyr Pro Ser Gly 245 250

<210> 219

<211> 2065

<212> DNA

<213> Homo sapiens

<400> 219

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<210> 220

<211> 201

<212> PRT

<213> Homo sapiens

<400> 220

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Thr Glu Pro Ile Val Leu Glu Gly Lys Cys Leu Val Val Cys Asp 35 40 45

Ser Asn Pro Ala Thr Asp Ser Lys Gly Ser Ser Ser Pro Leu
50 55 60

<211> 40

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 Arg Ile Ile Tyr Phe Asp Gln Ile Leu Val Asn Val Gly Asn Phe
 Phe Thr Leu Glu Ser Val Phe Val Ala Pro Arg Lys Gly Ile Tyr
                                      115
                 110
 Ser Phe Ser Phe His Val Ile Lys Val Tyr Gln Ser Gln Thr Ile
                                      130
 Gln Val Asn Leu Met Leu Asn Gly Lys Pro Val Ile Ser Ala Phe
 Ala Gly Asp Lys Asp Val Thr Arg Glu Ala Ala Thr Asn Gly Val
 Leu Leu Tyr Leu Asp Lys Glu Asp Lys Val Tyr Leu Lys Leu Glu
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 Lys Gly Asn Leu Val Gly Gly Trp Gln Tyr Ser Thr Phe Ser Gly
                                      190
 Phe Leu Val Phe Pro Leu
                 200
<210> 221
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
<400> 221
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<210> 222
<211> 24
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<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 222
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<210> 223
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<212> DNA
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<223> Synthetic construct.
<400> 223
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<210> 224
<211> 902
<212> DNA
<213> Homo sapiens
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tatcatcttc ctcatcgccg gagctttctt ctggttggtg tctctactga 150
tttcgtccct tgtttggttc atggcaagag tcattattga caacaaagat 200
ggaccaacac agaaatatct gctgatcttt ggagcgtttg tctctgtcta 250
tatccaagaa atgttccgat ttgcatatta taaactctta aaaaaagcca 300
gtgaaggttt gaagagtata aacccaggtg agacagcacc ctctatgcga 350
ctgctggcct atgtttctgg cttgggcttt ggaatcatga gtggagtatt 400
ttcctttgtg aataccctat ctgactcctt ggggccaggc acagtgggca 450
ttcatggaga ttctcctcaa ttcttccttt attcagcttt catgacgctg 500
gtcattatct tgctgcatgt attctggggc attgtatttt ttgatggctg 550
tgagaagaaa aagtggggca tcctccttat cgttctcctg acccacctgc 600
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tcagcattta taatcctggt gctcatgggc acctgggcat tcttagctgc 700
actttcttct ttacaaccag cgctccagat aacctcaggg aaccagcact 800
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<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

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Ala	Gly	Thr	Gly	Asp 380	Leu	Ser	Tyr	Gly	Tyr 385	Gln	Gly	Arg	Ser	Phe 390
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Glu	Glu	Asp	Asp	Tyr 410	Asp	Thr	Leu	Thr	Asp 415	Ile	Asp	Ser	Asp	Lys 420
Asn	Val	Ile	Arg	Thr 425	Lys	Gln	Tyr	Leu	Tyr 430	Val	Ala	Asp	Leu	Ala 435
Arg	Lys	Asp	Lys	Arg 440	Val	Leu	Arg	Lys	Lys 445	Tyr	Gln	Ile	Tyr	Phe 450
Trp	Asn	Ile	Ala	Thr 455	Ile	Ala	Val	Phe	Tyr 460	Ala	Leu	Pro	Val	Val 465
Gln	Leu	Val	Ile	Thr 470	Tyr	Gln	Thr	Val	Val 475	Asn	Val	Thr	Gly	Asn 480
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Ala	Leu	Met	Met	Glu 560	Gly	Leu	Leu	Ser	Ala 565	Cys	Tyr	His	Val	Cys 570
Pro	Asn	Tyr	Thr	Asn 575	Phe	Gln	Phe	Asp	Thr 580	Ser	Phe	Met	Tyr	Met 585
Ile	Ala	Gly	Leu	Cys 590	Met	Leu	Lys	Leu	Tyr 595	Gln	Lys	Arg	His	Pro 600
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Thr Ala Phe Trp Ile Val Phe Ser Ile Ile His Ile Ile Ala Thr
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Asp Ser Gly Ile Phe Arg Arg Ile Leu His Val Leu Tyr Thr Asp
                665
Cys Ile Arg Gln Cys Ser Gly Pro Leu Tyr Val Asp Arg Met Val
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Ile Gly Ile Cys Asn Leu Leu Leu Tyr Phe Ala Phe Tyr Ile Ile
Met Lys Leu Arg Ser Gly Glu Arg Ile Lys Leu Ile Pro Leu Leu
Cys Ile Val Cys Thr Ser Val Val Trp Gly Phe Ala Leu Phe Phe
Phe Phe Gln Gly Leu Ser Thr Trp Gln Lys Thr Pro Ala Glu Ser
Arg Glu His Asn Arg Asp Cys Ile Leu Leu Asp Phe Phe Asp Asp
His Asp Ile Trp His Phe Leu Ser Ser Ile Ala Met Phe Gly Ser
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Val	Gln	Val	Lys	Asp 215	Met	Gly	Asp	Gln	Ala 220	Ser	Gly	His	Gln	Ala 225
Thr	Ala	Thr	Val	Glu 230	Val	Ser	Ile	Ile	Glu 235	Ser	Thr	Trp	Val	Ser 240
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His	His	Met	Ala	Gln 260	Val	His	Trp	Ser	Gly 265	Gly	Asp	Val	His	Tyr 270
His	Leu	Glu	Ser	His 275	Pro	Pro	Gly	Pro	Phe 280	Glu	Val	Asn	Ala	Glu 285
Gly	Asn	Leu	Tyr	Val 290	Thr	Arg	Glu	Leu	Asp 295	Arg	Glu	Ala	Gln	Ala 300
Glu	Tyr	Leu	Leu	Gln 305	Val	Arg	Ala	Gln	Asn 310	Ser	His	Gly	Glu	Asp 315

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Pro	Val	Val	Val	Ser 725	His	Asn	Ala	Gln	Met 730	Trp	Gln	Leu	Leu	Val 735
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 gatgtcctgg tcccatctgt cagtctgcag gcatttaaat ccttcctgag 250
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 tagacaatga agatgatgaa atgcaacaca atgaagggca agaacggagc 350
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 ttgtatctga ttaccagagg gatccagcta tcacctccat cttggagaaa 650
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<210> 234

<211> 421

<212> PRT

<213> Homo sapiens

<400> 234

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Cys Gly Gln Glu Lys Phe Phe Gly Asp Gln Val Leu Arg Ile Asn
20 25 30

Val Arg Asn Gly Asp Glu Ile Ser Lys Leu Ser Gln Leu Val Asn 35 40 45

Ser Asn Asn Leu Lys Leu Asn Phe Trp Lys Ser Pro Ser Ser Phe 50 55 60

Asn Arg Pro Val Asp Val Leu Val Pro Ser Val Ser Leu Gln Ala 65 70 75

Phe Lys Ser Phe Leu Arg Ser Gln Gly Leu Glu Tyr Ala Val Thr 80 85 90

Ile Glu Asp Leu Gln Ala Leu Leu Asp Asn Glu Asp Asp Glu Met
95 100 105

Gln His Asn Glu Gly Gln Glu Arg Ser Ser Asn Asn Phe Asn Tyr 110 115 120

Gly Ala Tyr His Ser Leu Glu Ala Ile Tyr His Glu Met Asp Asn 125 130

Ile Ala Ala Asp Phe Pro Asp Leu Ala Arg Arg Val Lys Ile Gly
140 145 150

His Ser Phe Glu Asn Arg Pro Met Tyr Val Leu Lys Phe Ser Thr 155 160 165

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Gly Lys Gly Val Arg Arg Pro Ala Val Trp Leu Asn Ala Gly Ile
His Ser Arg Glu Trp Ile Ser Gln Ala Thr Ala Ile Trp Thr Ala
                185
Arg Lys Ile Val Ser Asp Tyr Gln Arg Asp Pro Ala Ile Thr Ser
Ile Leu Glu Lys Met Asp Ile Phe Leu Leu Pro Val Ala Asn Pro
                215
Asp Gly Tyr Val Tyr Thr Gln Thr Gln Asn Arg Leu Trp Arg Lys
                230
Thr Arg Ser Arg Asn Pro Gly Ser Ser Cys Ile Gly Ala Asp Pro
                                                         255
                                     250
Asn Arg Asn Trp Asn Ala Ser Phe Ala Gly Lys Gly Ala Ser Asp
Asn Pro Cys Ser Glu Val Tyr His Gly Pro His Ala Asn Ser Glu
Val Glu Val Lys Ser Val Val Asp Phe Ile Gln Lys His Gly Asn
Phe Lys Gly Phe Ile Asp Leu His Ser Tyr Ser Gln Leu Leu Met
Tyr Pro Tyr Gly Tyr Ser Val Lys Lys Ala Pro Asp Ala Glu Glu
Leu Asp Lys Val Ala Arg Leu Ala Ala Lys Ala Leu Ala Ser Val
Ser Gly Thr Glu Tyr Gln Val Gly Pro Thr Cys Thr Thr Val Tyr
Pro Ala Ser Gly Ser Ser Ile Asp Trp Ala Tyr Asp Asn Gly Ile
Lys Phe Ala Phe Thr Phe Glu Leu Arg Asp Thr Gly Thr Tyr Gly
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Phe Leu Leu Pro Ala Asn Gln Ile Ile Pro Thr Ala Glu Glu Thr
Trp Leu Gly Leu Lys Thr Ile Met Glu His Val Arg Asp Asn Leu
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Tyr

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<211> 1743

<212> DNA

<213> Homo sapiens

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<211> 417

<212> PRT

<213> Homo sapiens

<400> 236

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Ala Pro Ile Tyr Cys Val Ser Pro Ala Asn Ala Pro Ser Ala Tyr 20 25 30

Pro Arg Pro Ser Ser Thr Lys Ser Thr Pro Ala Ser Gln Val Tyr 35 40 45

Ser Leu Asn Thr Asp Phe Ala Phe Arg Leu Tyr Arg Arg Leu Val
50 55 60

Leu Glu Thr Pro Ser Gln Asn Ile Phe Phe Ser Pro Val Ser Val 65 70 75

Ser Thr Ser Leu Ala Met Leu Ser Leu Gly Ala His Ser Val Thr 80 85 90

Lys Thr Gln Ile Leu Gln Gly Leu Gly Phe Asn Leu Thr His Thr 95 100 105

Pro Glu Ser Ala Ile His Gln Gly Phe Gln His Leu Val His Ser 110 115 120

Leu Thr Val Pro Ser Lys Asp Leu Thr Leu Lys Met Gly Ser Ala 125 130 135

Leu Phe Val Lys Lys Glu Leu Gln Leu Gln Ala Asn Phe Leu Gly 140 145 150

Asn Val Lys Arg Leu Tyr Glu Ala Glu Val Phe Ser Thr Asp Phe 155 160 165

Ser Asn Pro Ser Ile Ala Gln Ala Arg Ile Asn Ser His Val Lys 170 175 180

Lys Lys Thr Gln Gly Lys Val Val Asp Ile Ile Gln Gly Leu Asp

Leu Leu Thr Ala Met Val Leu Val Asn His Ile Phe Phe Lys Ala

200 205 210 Lys Trp Glu Lys Pro Phe His Leu Glu Tyr Thr Arg Lys Asn Phe 215 Pro Phe Leu Val Gly Glu Gln Val Thr Val Gln Val Pro Met Met His Gln Lys Glu Gln Phe Ala Phe Gly Val Asp Thr Glu Leu Asn 245 Cys Phe Val Leu Gln Met Asp Tyr Lys Gly Asp Ala Val Ala Phe 260 Phe Val Leu Pro Ser Lys Gly Lys Met Arg Gln Leu Glu Gln Ala 280 Leu Ser Ala Arg Thr Leu Ile Lys Trp Ser His Ser Leu Gln Lys 295 300 Arg Trp Ile Glu Val Phe Ile Pro Arg Phe Ser Ile Ser Ala Ser Tyr Asn Leu Glu Thr Ile Leu Pro Lys Met Gly Ile Gln Asn Ala Phe Asp Lys Asn Ala Asp Phe Ser Gly Ile Ala Lys Arg Asp Ser 335 Leu Gln Val Ser Lys Ala Thr His Lys Ala Val Leu Asp Val Ser Glu Glu Gly Thr Glu Ala Thr Ala Ala Thr Thr Thr Lys Phe Ile Val Arg Ser Lys Asp Gly Pro Ser Tyr Phe Thr Val Ser Phe Asn 380 Arg Thr Phe Leu Met Met Ile Thr Asn Lys Ala Thr Asp Gly Ile 400 Leu Phe Leu Gly Lys Val Glu Asn Pro Thr Lys Ser

<210> 237

<211> 23

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-23

<223> Synthetic construct.

<400> 237

caaccatgca aggacagggc agg 23

<210> 238

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and a first time that that that that that the souls the souls the souls that that the souls are
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<222> 1-47
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<222> 1-24
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<222> 1-24
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<211> 48
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<222> 1-48
<223> Synthetic construct.
<400> 241
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<210> 242
<211> 2436
<212> DNA
<213> Homo sapiens
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<211> 596

<212> PRT

<213> Homo sapiens

<400> 243

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Ala Asn Thr Gly Ser Ser Val Ile Ser Ser Gly Ala Ser Thr Ala 35 40 45

Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Val Ser Thr Ala
50 55 60

Thr Ile Ser Gly Ser Ser Val Thr Ser Asn Gly Val Ser Ile Val 65 70 75

Thr Asn Ser Glu Phe His Thr Thr Ser Ser Gly Ile Ser Thr Ala Thr Asn Ser Glu Phe Ser Thr Ala Ser Ser Gly Ile Ser Ile Ala 95 Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 115 Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Ser Thr Val 135 125 Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Ala Ser Thr Ala 140 Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala 160 155 Thr Asn Ser Glu Ser Ser Thr Leu Ser Ser Gly Ala Ser Thr Ala 175 Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 190 Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 200 Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 230 Thr Asn Ser Glu Ser Arg Thr Thr Ser Asn Gly Ala Gly Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 260 265 Thr Asn Ser Asp Ser Ser Thr Val Ser Ser Gly Ala Ser Thr Ala 275 Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 290 295 Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 305 Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Gly Thr Ala 325 Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ile Ser Thr Val Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Asn Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Asn Thr Ala

365 370 375 Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ala Ser Thr Ala 380 Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Val Ser Thr Ala 395 Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 410 Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Glu Ala Ser Thr Ala 430 425 Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ile Ser Thr Val Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Asn Thr Ala 460 Thr Asn Ser Gly Ser Ser Val Thr Ser Ala Gly Ser Gly Thr Ala 470 Ala Leu Thr Gly Met His Thr Thr Ser His Ser Ala Ser Thr Ala Val Ser Glu Ala Lys Pro Gly Gly Ser Leu Val Pro Trp Glu Ile Phe Leu Ile Thr Leu Val Ser Val Val Ala Ala Val Gly Leu Phe Ala Gly Leu Phe Phe Cys Val Arg Asn Ser Leu Ser Leu Arg Asn 530 Thr Phe Asn Thr Ala Val Tyr His Pro His Gly Leu Asn His Gly Leu Gly Pro Gly Pro Gly Gly Asn His Gly Ala Pro His Arg Pro Arg Trp Ser Pro Asn Trp Phe Trp Arg Arg Pro Val Ser Ser Ile 580 Ala Met Glu Met Ser Gly Arg Asn Ser Gly Pro <210> 244

<211> 26

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-26

<223> Synthetic construct.

<400> 244

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<211> 24
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<221> Artificial Sequence
<222> 1-24
<223> Synthetic sequence.
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<210> 246
<211> 48
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<220>
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<222> 1-48
<223> Synthetic construct.
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<210> 247
<211> 957
<212> DNA
<213> Homo sapiens
<400> 247
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 tccctccttc tgctactggg ggccctgtct ggatgggcgg ccagcgatga 150
 ccccattgag aaggtcattg aagggatcaa ccgagggctg agcaatgcag 200
 agagagaggt gggcaaggcc ctggatggca tcaacagtgg aatcacgcat 250
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tggccaggcc gggaaggagc tgcagaatgc tcataatggg gtcaaccaag 650 ccagcaagga ggccaaccag ctgctgaatg gcaaccatca aagcggatct 700 tccagccatc aaggagggc cacaaccacg ccgttagcct ctggggcctc 750 agtcaacacg cctttcatca accttcccgc cctgtggagg agcgtcgcca 800 acatcatgcc ctaaactggc atccggcctt gctgggagaa taatgtcgcc 850 gttgtcacat cagctgacat gacctggagg ggttgggggt gggggacagg 900 ttctgaaat ccctgaaggg ggttgtactg ggatttgtga ataaacttga 950 tacacca 957

<210> 248

<211> 247

<212> PRT

<213> Homo sapiens

<400> 248

Met His Leu Ala Arg Leu Val Gly Ser Cys Ser Leu Leu Leu 1 5 10 15

Leu Gly Ala Leu Ser Gly Trp Ala Ala Ser Asp Asp Pro Ile Glu 20 25 30

Lys Val Ile Glu Gly Ile Asn Arg Gly Leu Ser Asn Ala Glu Arg 35 40 45

Glu Val Gly Lys Ala Leu Asp Gly Ile Asn Ser Gly Ile Thr His 50 55 60

Ala Gly Arg Glu Val Glu Lys Val Phe Asn Gly Leu Ser Asn Met 65 70 75

Gly Ser His Thr Gly Lys Glu Leu Asp Lys Gly Val Gln Gly Leu 80 85 90

Asn His Gly Met Asp Lys Val Ala His Glu Ile Asn His Gly Ile 95 100 105

Gly Gln Ala Gly Lys Glu Ala Glu Lys Leu Gly His Gly Val Asn 110 115 120

Asn Ala Ala Gly Gln Ala Gly Lys Glu Ala Asp Lys Ala Val Gln 125 130 135

Gly Phe His Thr Gly Val His Gln Ala Gly Lys Glu Ala Glu Lys 140 145 150

Leu Gly Gln Gly Val Asn His Ala Ala Asp Gln Ala Gly Lys Glu 155 160 165

Val Glu Lys Leu Gly Gln Gly Ala His His Ala Ala Gly Gln Ala 170 175 180

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Gly Lys Glu Leu Gln Asn Ala His Asn Gly Val Asn Gln Ala Ser
                                     190
                 185
Lys Glu Ala Asn Gln Leu Leu Asn Gly Asn His Gln Ser Gly Ser
Ser Ser His Gln Gly Gly Ala Thr Thr Pro Leu Ala Ser Gly
                 215
Ala Ser Val Asn Thr Pro Phe Ile Asn Leu Pro Ala Leu Trp Arg
                 230
                                     235
Ser Val Ala Asn Ile Met Pro
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<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 249
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<400> 250
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<222> 1-43
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tgaccccatt gagaaggtca ttgaagggat caaccgaggg ctg 43
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<212> DNA
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Pro Arg Ile Ser Leu Pro Leu Gly Ser Glu Glu Arg Pro Phe Leu 50 55 60

Arg Phe Glu Ala Glu His Ile Ser Asn Tyr Thr Ala Leu Leu Leu 65 70 75

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Lys	Ile	Leu	Leu	Pro 140	Leu	Ser	Gly	Ser	His 145	Leu	Phe	Thr	Cys	Gly 150
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Gln	Gly	Asn	Asp	Pro 215	Ala	Ile	Ser	Arg	Ser 220	Gln	Ser	Leu	Arg	Pro 225
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Val	Ala	Ser	Ala	Tyr 245	Ile	Pro	Glu	Ser	Leu 250	Gly	Ser	Leu	Gln	Gly 255
Asp	Asp	Asp	Lys	Ile 260	Tyr	Phe	Phe	Phe	Ser 265	Glu	Thr	Gly	Gln	Glu 270
Phe	Glu	Phe	Phe	Glu 275	Asn	Thr	Ile	Val	Ser 280	Arg	Ile	Ala	Arg	Ile 285
Cys	Lys	Gly	Asp	Glu 290	Gly	Gly	Glu	Arg	Val 295	Leu	Gln	Gln	Arg	Trp 300
Thr	Ser	Phe	Leu	Lys 305	Ala	Gln	Leu	Leu	Cys 310	Ser	Arg	Pro	Asp	Asp 315
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Ser	Pro	Gln	Asp	Trp 335	Arg	Asp	Thr	Leu	Phe 340	Tyr	Gly	Val	Phe	Thr 345
Ser	Gln	Trp	His	Arg 350	Gly	Thr	Thr	Glu	Gly 355	Ser	Ala	Val	Cys	Val 360
Phe	Thr	Met	Lys	Asp 365	Val	Gln	Arg	Val	Phe 370	Ser	Gly	Leu	Tyr	Lys 375

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Ala Arg Gly Asp Ala Arg Gly Ala Gln Leu Trp Pro Pro Gly Ser
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Asp Pro Asp Gly Gly Pro Arg Asp Arg Asn Phe Leu Phe Val Gly 80 85 90

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Tyr Arg Thr Trp Ser Lys Thr Ile Pro Gly Lys Val Gln Phe Phe 110 115 120

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Ala Leu Glu Pro Gly Glu Asn Phe Cys Met Gly Gly Pro Gly Val 215 220 225

Ile Met Ser Arg Glu Val Leu Arg Arg Met Val Pro His Ile Gly 230 235 240

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Ile	Leu	Pro	Val	Ser 605	Gly	Glu	Phe	Ser	Arg 610	Ala	Leu	Ala	Leu	Glu 615
Val	Gly	Ser	Ser	Gln 620	Phe	Asn	Asn	Glu	Ser 625	Leu	Leu	Phe	Phe	Cys 630
Asp	Val	Asp	Leu	Val 635	Phe	Thr	Thr	Glu	Phe 640	Leu	Gln	Arg	Cys	Arc 645
Ala	Asn	Thr	Val	Leu 650	Gly	Gln	Gln	Ile	Tyr 655	Phe	Pro	Ile	Ile	Phe
Ser	Gln	Tyr	Asp	Pro 665	Lys	Ile	Val	Tyr	Ser 670	Gly	Lys	Val	Pro	Ser 675
				Ala 680					685	_			_	690
				Ile 695					700					705
Val	Gly	Gly	Phe	Asp 710	Val	Ser	Ile	Gln	Gly 715	Trp	Gly	Leu	Glu	Asp 720
				Asn 725					730					735
				Val 740					745					750
				Leu 755					760					765
				Thr 770					775					780
				Asn 785			Ser	Tyr	Ser 790	Lys	Ser	Ser	Asn	Asn 795
Asn	Gly	Ser	Val	Arg 800	Thr	Ala								

<210> 261 <211> 24

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<222> 1-24
<223> Synthetic construct.
<400> 261
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<210> 262
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 262
tcccatttct tccgtggtgc ccag 24
<210> 263
<211> 46
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-46
<223> Synthetic construct.
<400> 263
ccagaagaag tccttcatga tgctcaagta catgcacgac cactac 46
<210> 264
<211> 1419
<212> DNA
<213> Homo sapiens
<400> 264
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 gttccggtcg catggcagag tgctacggac gacgcctatg aagcccttag 150
 tccttctagt tgcgcttttg ctatggcctt cgtctgtgcc ggcttatccg 200
agcataactg tgacacctga tgaagagcaa aacttgaatc attatataca 250
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agaaaaaatc taactctcca aaacatgttt attctatagc atcaaaggga 350
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tcaaaattta aggagctagt tacacatgga gacgcttcaa ctgagaatga 400

tgttttaacc aatcctatca gtgaagaaac tacaactttc cctacaggag 450 gcttcacacc ggaaatagga aagaaaaaac acacggaaag taccccattc 500 tggtcgatca aaccaaacaa tgtttccatt gttttgcatg cagaggaacc 550 ttatattgaa aatgaagagc cagagccaga gccggagcca gctgcaaaac 600 aaactgaggc accaagaatg ttgccagttg ttactgaatc atctacaagt 650 ccatatgtta cctcatacaa gtcacctgtc accactttag ataagagcac 700 tggcattgag atctctacag aatcagaaga tgttcctcag ctctcaggtg 750 aaactgcgat agaaaaaccc gaagagtttg gaaagcaccc agagagttgg 800 aataatgatg acattttgaa aaaaatttta gatattaatt cacaagtgca 850 acaggcactt cttagtgaca ccagcaaccc agcatataga gaagatattg 900 aagcctctaa agatcaccta aaacgaagcc ttgctctagc agcagcagca 950 gaacataaat taaaaacaat gtataaqtcc cagttattqc cagtaggacg 1000 aacaagtaat aaaattgatg acatcgaaac tgttattaac atgctgtgta 1050 attctagatc taaactctat gaatatttag atattaaatg tgttccacca 1100 gagatgagag aaaaagctqc tacaqtattc aatacattaa aaaatatqtq 1150 tagatcaagg agagtcacag ccttattaaa agtttattaa acaataatat 1200 aaaaaatttta aacctacttg atattccata acaaagctga tttaagcaaa 1250 ctgcattttt tcacaggaga aataatcata ttcgtaattt caaaagttgt 1300 ataaaaatat tttctattgt agttcaaatg tgccaacatc tttatgtgtc 1350 atgtgttatg aacaattttc atatgcacta aaaacctaat ttaaaataaa 1400 attttggttc aggaaaaaa 1419

<210> 265

<211> 350

<212> PRT

<213> Homo sapiens

<400> 265

Met Lys Pro Leu Val Leu Leu Val Ala Leu Leu Leu Trp Pro Ser 1 5 10 15

Ser Val Pro Ala Tyr Pro Ser Ile Thr Val Thr Pro Asp Glu Glu 20 25 30

Gln Asn Leu Asn His Tyr Ile Gln Val Leu Glu Asn Leu Val Arg
35 40 45

Ser Val Pro Ser Gly Glu Pro Gly Arg Glu Lys Lys Ser Asn Ser

50 55 60 Pro Lys His Val Tyr Ser Ile Ala Ser Lys Gly Ser Lys Phe Lys Glu Leu Val Thr His Gly Asp Ala Ser Thr Glu Asn Asp Val Leu Thr Asn Pro Ile Ser Glu Glu Thr Thr Thr Phe Pro Thr Gly Gly 100 Phe Thr Pro Glu Ile Gly Lys Lys His Thr Glu Ser Thr Pro Phe Trp Ser Ile Lys Pro Asn Asn Val Ser Ile Val Leu His Ala Glu Glu Pro Tyr Ile Glu Asn Glu Glu Pro Glu Pro Glu Pro Glu 140 145 Pro Ala Ala Lys Gln Thr Glu Ala Pro Arg Met Leu Pro Val Val 155 160 Thr Glu Ser Ser Thr Ser Pro Tyr Val Thr Ser Tyr Lys Ser Pro 170 175 180 Val Thr Thr Leu Asp Lys Ser Thr Gly Ile Glu Ile Ser Thr Glu Ser Glu Asp Val Pro Gln Leu Ser Gly Glu Thr Ala Ile Glu Lys 200 Pro Glu Glu Phe Gly Lys His Pro Glu Ser Trp Asn Asn Asp Asp Ile Leu Lys Lys Ile Leu Asp Ile Asn Ser Gln Val Gln Gln Ala 230 Leu Leu Ser Asp Thr Ser Asn Pro Ala Tyr Arg Glu Asp Ile Glu Ala Ser Lys Asp His Leu Lys Arg Ser Leu Ala Leu Ala Ala Ala Ala Glu His Lys Leu Lys Thr Met Tyr Lys Ser Gln Leu Leu Pro Val Gly Arg Thr Ser Asn Lys Ile Asp Asp Ile Glu Thr Val Ile Asn Met Leu Cys Asn Ser Arg Ser Lys Leu Tyr Glu Tyr Leu Asp Ile Lys Cys Val Pro Pro Glu Met Arg Glu Lys Ala Ala Thr Val Phe Asn Thr Leu Lys Asn Met Cys Arg Ser Arg Arg Val Thr Ala

340

335

Leu Leu Lys Val Tyr 350

<210> 266

<211> 2403

<212> DNA

<213> Homo sapiens

<400> 266

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ccaacaatgg gtattgggtc ctcagactga caacagaaca tttgtatttc 1300 acattcaatc cccattttat cagcctcccc cccaqcaccc ctcctacacg 1350 agtaggggtc ttcctggact atgagggtgg gaccatctcc ttcttcaata 1400 caaatgacca gtcccttatt tataccctgc tgacatgtca gtttgaaggc 1450 ttgttgagac cctatatcca gcatgcgatg tatgacgagg aaaaggggac 1500 teccatatte atatgtecag tgteetgggg atgagacaga gaagaceetg 1550 cttaaagggc cccacaccac agaccagac acagccaagg gagagtgctc 1600 ccgacaggtg gccccagctt cctctccgga gcctgcgcac agagagtcac 1650 gccccccact ctcctttagg gagctgaggt tcttctgccc tgagccctgc 1700 agcagcggca gtcacagctt ccagatgagg ggggattggc ctgaccctgt 1750 gggagtcaga agccatggct gccctgaagt ggggacggaa tagactcaca 1800 ttaggtttag tttgtgaaaa ctccatccag ctaagcgatc ttgaacaagt 1850 cacaacetee caggeteete atttgetagt caeggacagt gatteetgee 1900 tcacaggtga agattaaaga gacaacgaat gtgaatcatg cttgcaggtt 1950 tgagggcaca gtgtttgcta atgatgtgtt tttatattat acattttccc 2000 accataaact ctgtttgctt attccacatt aatttacttt tctctatacc 2050 aaatcaccca tggaatagtt attgaacacc tgctttgtga ggctcaaaga 2100 ataaagagga ggtaggattt ttcactgatt ctataagccc agcattacct 2150 gataccaaaa ccaggcaaag aaaacagaag aagaggaagg aaaactacag 2200 gtccatatcc ctcattaaca cagacacaaa aattctaaat aaaattttaa 2250 caaattaaac taaacaatat atttaaagat gatatataac tactcagtgt 2300 ggtttgtccc acaaatgcag agttggttta atatttaaat atcaaccagt 2350 aaa 2403

<210> 267

<211> 466

<212> PRT

<213> Homo sapiens

<400> 267

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Ser Gly Gln Trp Gln Val Thr Gly Pro Gly Lys Phe Val Gln Ala

				20					25					30
Leu	Val	Gly	Glu	Asp 35	Ala	Val	Phe	Ser	Cys 40	Ser	Leu	Phe	Pro	Glu 45
Thr	Ser	Ala	Glu	Ala 50	Met	Glu	Val	Arg	Phe 55	Phe	Arg	Asn	Gln	Phe 60
His	Ala	Val	Val	His 65	Leu	Tyr	Arg	Asp	Gly 70	Glu	Asp	Trp	Glu	Ser 75
Lys	Gln	Met	Pro	Gln 80	Tyr	Arg	Gly	Arg	Thr 85	Glu	Phe	Val	Lys	Asp 90
Ser	Ile	Ala	Gly	Gly 95	Arg	Val	Ser	Leu	Arg 100	Leu	Lys	Asn	Ile	Thr 105
Pro	Ser	Asp	Ile	Gly 110	Leu	Tyr	Gly	Cys	Trp 115	Phe	Ser	Ser	Gln	Ile 120
Tyr	Asp	Glu	Glu	Ala 125	Thr	Trp	Glu	Leu	Arg 130	Val	Ala	Ala	Leu	Gly 135
Ser	Leu	Pro	Leu	Ile 140	Ser	Ile	Val	Gly	Tyr 145	Val	Asp	Gly	Gly	Ile 150
Gln	Leu	Leu	Cys	Leu 155	Ser	Ser	Gly	Trp	Phe 160	Pro	Gln	Pro	Thr	Ala 165
Lys	Trp	Lys	Gly	Pro 170	Gln	Gly	Gln	Asp	Leu 175	Ser	Ser	Asp	Ser	Arg 180
Ala	Asn	Ala	Asp	Gly 185	Tyr	Ser	Leu	Tyr	Asp 190	Val	Glu	Ile	Ser	Ile 195
Ile	Val	Gln	Glu	Asn 200	Ala	Gly	Ser	Ile	Leu 205	Cys	Ser	Ile	His	Leu 210
Ala	Glu	Gln	Ser	His 215	Glu	Val	Glu	Ser	Lys 220	Val	Leu	Ile	Gly	Glu 225
Thr	Phe	Phe	Gln	Pro 230	Ser	Pro	Trp	Arg	Leu 235	Ala	Ser	Ile	Leu	Leu 240
Gly	Leu	Leu	Cys	Gly 245	Ala	Leu	Cys	Gly	Val 250	Val	Met	Gly	Met	Ile 255
Ile	Val	Phe	Phe	Lys 260	Ser	Lys	Gly	Lys	Ile 265	Gln	Ala	Glu	Leu	Asp 270
Trp	Arg	Arg	Lys	His 275	Gly	Gln	Ala	Glu	Leu 280	Arg	Asp	Ala	Arg	Lys 285
His	Ala	Val	Glu	Val 290	Thr	Leu	Asp	Pro	Glu 295	Thr	Ala	His	Pro	Lys 300

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Gln Glu Val Pro His Ser Glu Lys Arg Phe Thr Arg Lys Ser Val
                                                         330
Val Ala Ser Gln Gly Phe Gln Ala Gly Arg His Tyr Trp Glu Val
                                     340
Asp Val Gly Gln Asn Val Gly Trp Tyr Val Gly Val Cys Arg Asp
Asp Val Asp Arg Gly Lys Asn Asn Val Thr Leu Ser Pro Asn Asn
Gly Tyr Trp Val Leu Arg Leu Thr Thr Glu His Leu Tyr Phe Thr
Phe Asn Pro His Phe Ile Ser Leu Pro Pro Ser Thr Pro Pro Thr
                395
                                     400
                                                         405
Arg Val Gly Val Phe Leu Asp Tyr Glu Gly Gly Thr Ile Ser Phe
Phe Asn Thr Asn Asp Gln Ser Leu Ile Tyr Thr Leu Leu Thr Cys
                425
                                     430
                                                         435
Gln Phe Glu Gly Leu Leu Arg Pro Tyr Ile Gln His Ala Met Tyr
                                     445
Asp Glu Glu Lys Gly Thr Pro Ile Phe Ile Cys Pro Val Ser Trp
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Gly

<210> 268

<211> 2103

<212> DNA

<213> Homo sapiens

<400> 268

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gtcatcttca tatccctgat tgtcctggca gtgtgcattg gactcactgt 150
tcattatgtg agatataatc aaaagaagac ctacaattac tatagcacat 200
tgtcatttac aactgacaaa ctatatgctg agtttggcag agaggcttct 250
aacaatttta cagaaatgag ccagagactt gaatcaatgg tgaaaaatgc 300
attttataaa tctccattaa gggaagaatt tgtcaagtct caggttatca 350
agttcagtca acagaagcat ggagtgttgg ctcatatgct gttgatttgt 400
agatttcact ctactgagga tcctgaaact gtagataaaa ttgttcaact 450
tgttttacat gaaaagctgc aagatgctgt aggaccccct aaagtagatc 500

ctcactcagt taaaattaaa aaaatcaaca agacagaaac agacagctat 550 ctaaaccatt gctgcggaac acgaagaagt aaaactctag gtcagagtct 600 caggatcgtt ggtgggacag aagtagaaga gggtgaatgg ccctggcagg 650 ctagcctgca gtgggatggg agtcatcgct gtggagcaac cttaattaat 700 gccacatggc ttgtgagtgc tgctcactgt tttacaacat ataagaaccc 750 tgccagatgg actgcttcct ttggagtaac aataaaacct tcgaaaatga 800 aacggggtct ccggagaata attgtccatg aaaaatacaa acacccatca 850 catgactatg atatttctct tgcagagctt tctagccctg ttccctacac 900 aaatgcagta catagagttt gtctccctga tgcatcctat gagtttcaac 950 caggtgatgt gatgtttgtg acaggatttg gagcactgaa aaatgatggt 1000 tacagtcaaa atcatcttcg acaagcacag gtgactctca tagacgctac 1050 aacttgcaat gaacctcaag cttacaatga cgccataact cctagaatgt 1100 tatgtgctgg ctccttagaa ggaaaaacag atgcatgcca gggtgactct 1150 ggaggaccac tggttagttc agatgctaga gatatctggt accttgctgg 1200 aatagtgagc tggggagatg aatgtgcgaa acccaacaag cctggtgttt 1250 atactagagt tacggccttg cgggactgga ttacttcaaa aactggtatc 1300 taagagacaa aagcctcatg gaacagataa cattttttt tgttttttgg 1350 gtgtggaggc catttttaga gatacagaat tggagaagac ttgcaaaaca 1400 gctagatttg actgatctca ataaactgtt tgcttgatgc atgtattttc 1450 ttcccagctc tgttccgcac gtaagcatcc tgcttctgcc agatcaactc 1500 tgtcatctgt gagcaatagt tgaaacttta tgtacataga gaaatagata 1550 atacaatatt acattacagc ctgtattcat ttgttctcta gaagttttgt 1600 cagaattttg acttgttgac ataaatttgt aatgcatata tacaatttga 1650 agcactcctt ttcttcagtt cctcagctcc tctcatttca gcaaatatcc 1700 attttcaagg tgcagaacaa ggagtgaaag aaaatataag aagaaaaaaa 1750 tcccctacat tttattggca cagaaaagta ttaggtgttt ttcttagtgg 1800 aatattagaa atgatcatat tcattatgaa aggtcaagca aagacagcag 1850 aataccaatc acttcatcat ttaggaagta tgggaactaa gttaaggaag 1900 tccagaaaga agccaagata tatccttatt ttcatttcca aacaactact 1950

atgataaatg tgaagaagat tctgttttt tgtgacctat aataattata 2000 caaacttcat gcaatgtact tgttctaagc aaattaaagc aaatatttat 2050 ttaacattgt tactgaggat gtcaacatat aacaataaaa tataaatcac 2100 cca 2103

<210> 269

<211> 423

<212> PRT

<213> Homo sapiens

<400> 269

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Trp Glu Pro Trp Val Ile Gly Leu Val Ile Phe Ile Ser Leu Ile 20 25 30

Val Leu Ala Val Cys Ile Gly Leu Thr Val His Tyr Val Arg Tyr 35 40 45

Asn Gln Lys Lys Thr Tyr Asn Tyr Tyr Ser Thr Leu Ser Phe Thr 50 55 60

Thr Asp Lys Leu Tyr Ala Glu Phe Gly Arg Glu Ala Ser Asn Asn 65 70 75

Phe Thr Glu Met Ser Gln Arg Leu Glu Ser Met Val Lys Asn Ala 80 85 90

Phe Tyr Lys Ser Pro Leu Arg Glu Glu Phe Val Lys Ser Gln Val 95 100 105

Ile Lys Phe Ser Gln Gln Lys His Gly Val Leu Ala His Met Leu 110 115 120

Leu Ile Cys Arg Phe His Ser Thr Glu Asp Pro Glu Thr Val Asp 125 130 135

Lys Ile Val Gln Leu Val Leu His Glu Lys Leu Gln Asp Ala Val 140 145 150

Gly Pro Pro Lys Val Asp Pro His Ser Val Lys Ile Lys Lys Ile 155 160 165

Asn Lys Thr Glu Thr Asp Ser Tyr Leu Asn His Cys Cys Gly Thr 170 175 180

Arg Arg Ser Lys Thr Leu Gly Gln Ser Leu Arg Ile Val Gly Gly 185 190 195

Thr Glu Val Glu Glu Gly Glu Trp Pro Trp Gln Ala Ser Leu Gln $200 \hspace{1cm} 205 \hspace{1cm} 210 \hspace{1cm}$

Trp Asp Gly Ser His Arg Cys Gly Ala Thr Leu Ile Asn Ala Thr 215 220 225

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Trp Leu Val Ser Ala Ala His Cys Phe Thr Thr Tyr Lys Asn Pro
Ala Arg Trp Thr Ala Ser Phe Gly Val Thr Ile Lys Pro Ser Lys
Met Lys Arg Gly Leu Arg Arg Ile Ile Val His Glu Lys Tyr Lys
                                     265
His Pro Ser His Asp Tyr Asp Ile Ser Leu Ala Glu Leu Ser Ser
                                     280
                                                         285
Pro Val Pro Tyr Thr Asn Ala Val His Arg Val Cys Leu Pro Asp
Ala Ser Tyr Glu Phe Gln Pro Gly Asp Val Met Phe Val Thr Gly
                                     310
Phe Gly Ala Leu Lys Asn Asp Gly Tyr Ser Gln Asn His Leu Arg
Gln Ala Gln Val Thr Leu Ile Asp Ala Thr Thr Cys Asn Glu Pro
                335
Gln Ala Tyr Asn Asp Ala Ile Thr Pro Arg Met Leu Cys Ala Gly
                                     355
Ser Leu Glu Gly Lys Thr Asp Ala Cys Gln Gly Asp Ser Gly Gly
                                                         375
                365
Pro Leu Val Ser Ser Asp Ala Arg Asp Ile Trp Tyr Leu Ala Gly
                380
                                     385
Ile Val Ser Trp Gly Asp Glu Cys Ala Lys Pro Asn Lys Pro Gly
                395
                                     400
                                                         405
Val Tyr Thr Arg Val Thr Ala Leu Arg Asp Trp Ile Thr Ser Lys
                410
                                     415
Thr Gly Ile
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<210> 270

<211> 1170

<212> DNA

<213> Homo sapiens

<400> 270

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cagacgtcag ctggtggatt cccgctgcat caaggcctac ccactgtctc 150
catgctgggc tctccctgcc ttctgtggct cctggccgtg accttcttgg 200
ttcccagagc tcagcccttg gcccctcaag actttgaaga agaggaggca 250

gatgagactg agacggcgtg gccgcctttg ccgqctqtcc cctqcgacta 300 cgaccactgc cgacacctgc aggtgccctg caaggagcta cagagggtcg 350 ggccggcggc ctgcctgtgc ccaggactct ccagccccqc ccaqccqccc 400 gacccgccgc gcatgggaga agtgcgcatt gcggccgaag agggccgcgc 450 agtggtccac tgqtgtgccc ccttctcccc qqtcctccac tactqqctqc 500 tgctttggga cggcagcgag gctgcgcaga aggggccccc gctgaacgct 550 acggtccgca gagccgaact gaaggggctg aagccagggg gcatttatgt 600 cgtttgcgta gtggccgcta acgaggccgg ggcaagccgc gtgccccagg 650 ctggaggaga gggcctcgag ggggccgaca tccctgcctt cgggccttgc 700 agecgeettg eggtgeegee caaceceege actetggtee aegeggeegt 750 cggggtgggc acggccctgg ccctgctaag ctgtgccgcc ctggtgtggc 800 acttctgcct gcgcgatcgc tggggctgcc cgcgccgagc cgccgcccga 850 gccgcagggg cgctctgaaa ggggcctggg ggcatctcqg qcacagacag 900 ccccacetgg ggcgctcagc ctggcccccg ggaaagagga aaacccgctg 950 cctccaggga gggctggacg gcgagctggg agccagccc aggctccagg 1000 gccacggcgg agtcatggtt ctcaggactg agcgcttgtt taggtccqgt 1050 acttggcgct ttgtttcctg gctgaggtct gggaaggaat agaaaggggc 1100 ccccaatttt tttttaagcg gccagataat aaataatgta acctttgcgg 1150 ttaaaaaaaa aaaaaaaaa 1170

<210> 271

<211> 238

<212> PRT

<213> Homo sapiens

<400> 271

Met Leu Gly Ser Pro Cys Leu Leu Trp Leu Leu Ala Val Thr Phe 1 5 10 15

Leu Val Pro Arg Ala Gln Pro Leu Ala Pro Gln Asp Phe Glu Glu 20 25 30

Glu Glu Ala Asp Glu Thr Glu Thr Ala Trp Pro Pro Leu Pro Ala
35 40

Val Pro Cys Asp Tyr Asp His Cys Arg His Leu Gln Val Pro Cys 50 55 60

Lys Glu Leu Gln Arg Val Gly Pro Ala Ala Cys Leu Cys Pro Gly 65 70 75

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Leu Ser Ser Pro Ala Gln Pro Pro Asp Pro Pro Arg Met Gly Glu
Val Arg Ile Ala Ala Glu Glu Gly Arg Ala Val His Trp Cys
Ala Pro Phe Ser Pro Val Leu His Tyr Trp Leu Leu Trp Asp
                                    115
Gly Ser Glu Ala Ala Gln Lys Gly Pro Pro Leu Asn Ala Thr Val
                                                        135
Arg Arg Ala Glu Leu Lys Gly Leu Lys Pro Gly Gly Ile Tyr Val
Val Cys Val Val Ala Ala Asn Glu Ala Gly Ala Ser Arg Val Pro
                155
Gln Ala Gly Gly Glu Gly Leu Glu Gly Ala Asp Ile Pro Ala Phe
                                    175
Gly Pro Cys Ser Arg Leu Ala Val Pro Pro Asn Pro Arg Thr Leu
                                                        195
                185
                                    190
Val His Ala Ala Val Gly Val Gly Thr Ala Leu Ala Leu Leu Ser
                                    205
Cys Ala Ala Leu Val Trp His Phe Cys Leu Arg Asp Arg Trp Gly
                                                        225
                215
                                    220
Cys Pro Arg Arg Ala Ala Ala Arg Ala Ala Gly Ala Leu
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<210> 272

<211> 2397

<212> DNA

<213> Homo sapiens

230

<400> 272

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<211> 305

<212> PRT

<213> Homo sapiens

<400> 273

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Val Ser Ala Trp Met Arg Asp Tyr Leu Asn Asn Val Leu Thr Leu
35 40 45

Thr Ala Glu Thr Arg Val Glu Glu Ala Val Ile Leu Thr Tyr Phe
50 55 60

Pro Val Val His Pro Val Met Ile Ala Val Cys Cys Phe Leu Ile 65 70 75

Ile Val Gly Met Leu Gly Tyr Cys Gly Thr Val Lys Arg Asn Leu 80 85 90

Leu Leu Leu Ala Trp Tyr Phe Gly Ser Leu Leu Val Ile Phe Cys 95 100 105

Val Glu Leu Ala Cys Gly Val Trp Thr Tyr Glu Gln Glu Leu Met 110 115 120

Val Pro Val Gln Trp Ser Asp Met Val Thr Leu Lys Ala Arg Met 125 130 135

Thr Asn Tyr Gly Leu Pro Arg Tyr Arg Trp Leu Thr His Ala Trp
140 145 150

Asn Phe Phe Gln Arg Glu Phe Lys Cys Cys Gly Val Val Tyr Phe 155 160 165

Thr Asp Trp Leu Glu Met Thr Glu Met Asp Trp Pro Pro Asp Ser

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<211> 432

<212> PRT

<213> Homo sapiens

<400> 275

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Lys Val Gly Ile Pro Ile Ile Ile Ala Leu Leu Ser Leu Ala Ser 35 40 45

Ile Ile Ile Val Val Leu Ile Lys Val Ile Leu Asp Lys Tyr 50 55 60

Tyr Phe Leu Cys Gly Gln Pro Leu His Phe Ile Pro Arg Lys Gln
65 70 75

Leu Cys Asp Gly Glu Leu Asp Cys Pro Leu Gly Glu Asp Glu Glu 80 85 90

His Cys Val Lys Ser Phe Pro Glu Gly Pro Ala Val Ala Val Arg 95 100 105

Leu Ser Lys Asp Arg Ser Thr Leu Gln Val Leu Asp Ser Ala Thr 110 115 120

Gly Asn Trp Phe Ser Ala Cys Phe Asp Asn Phe Thr Glu Ala Leu 125 130 135

Ala Glu Thr Ala Cys Arg Gln Met Gly Tyr Ser Arg Ala Val Glu 140 145 150

Ile Gly Pro Asp Gln Asp Leu Asp Val Val Glu Ile Thr Glu Asn 155 160 165

Ser Gln Glu Leu Arg Met Arg Asn Ser Ser Gly Pro Cys Leu Ser 170 175 180

Gly Ser Leu Val Ser Leu His Cys Leu Ala Cys Gly Lys Ser Leu 185 190 195

Lys Thr Pro Arg Val Val Gly Glu Glu Ala Ser Val Asp Ser 200 205 210

Trp Pro Trp Gln Val Ser Ile Gln Tyr Asp Lys Gln His Val Cys 215 220 225

Gly Gly Ser Ile Leu Asp Pro His Trp Val Leu Thr Ala Ala His

Cys Phe Arg Lys His Thr Asp Val Phe Asn Trp Lys Val Arg Ala 245 250 255

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Val Arg Pro Ile Cys Leu Pro Phe Phe Asp Glu Glu Leu Thr Pro
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Ala Thr Pro Leu Trp Ile Ile Gly Trp Gly Phe Thr Lys Gln Asn
Gly Gly Lys Met Ser Asp Ile Leu Leu Gln Ala Ser Val Gln Val
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                                    340
Ile Asp Ser Thr Arg Cys Asn Ala Asp Asp Ala Tyr Gln Gly Glu
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Val Thr Glu Lys Met Met Cys Ala Gly Ile Pro Glu Gly Gly Val
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                                    370
                                                         375
Asp Thr Cys Gln Gly Asp Ser Gly Gly Pro Leu Met Tyr Gln Ser
                                    385
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<211> 3143

<212> DNA

<213> Homo sapiens

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<211> 761

<212> PRT

<213> Homo sapiens

<400> 277

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Thr	Ala	Pro	His	Ile 320	Tyr	Ala	Val	Phe	Thr 325	Ser	Gln	Trp	Gln	Val 330
Gly	Gly	Thr	Arg	Ser 335	Ser	Ala	Val	Cys	Ala 340	Phe	Ser	Leu	Leu	Asp 345
Ile	Glu	Arg	Val	Phe 350	Lys	Gly	Lys	Tyr	Lys 355	Glu	Leu	Asn	Lys	Glu 360
Thr	Ser	Arg	Trp	Thr 365	Thr	Tyr	Arg	Gly	Pro 370	Glu	Thr	Asn	Pro	Arg 375
Pro	Gly	Ser	Суз	Ser 380	Val	Gly	Pro	Ser	Ser 385	Asp	Lys	Ala	Leu	Thr 390
Phe	Met	Lys	Asp	His 395	Phe	Leu	Met	Asp	Glu 400	Gln	Val	Val	Gly	Thr 405
Pro	Leu	Leu	Val	Lys 410	Ser	Gly	Val	Glu	Tyr 415	Thr	Arg	Leu	Ala	Val 420
Glu	Thr	Ala	Gln	Gly 425	Leu	Asp	Gly	His	Ser 430	His	Leu	Val	Met	Tyr 435
Leu	Gly	Thr	Thr	Thr 440	Gly	Ser	Leu	His	Lys 445	Ala	Val	Val	Ser	Gly 450
Asp	Ser	Ser	Ala	His 455	Leu	Val	Glu	Glu	Ile 460	Gln	Leu	Phe	Pro	Asp 465
Pro	Glu	Pro	Val	Arg 470	Asn	Leu	Gln	Leu	Ala 475	Pro	Thr	Gln	Gly	Ala 480
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Asp	Pro	His	Cys	Ala 515	Trp	Asp	Pro	Glu	Ser 520	Arg	Thr	Cys	Cys	Leu 525
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Gly	Asn	Pro	Glu	Trp 545	Ala	Cys	Ala	Ser	Gly 550	Pro	Met	Ser	Arg	Ser 555
Leu	Arg	Pro	Gln	Ser 560	Arg	Pro	Gln	Ile	Ile 565	Lys	Glu	Val	Leu	Ala 570
Val	Pro	Asn	Ser	Ile 575	Leu	Glu	Leu	Pro	Cys 580	Pro	His	Leu	Ser	Ala 585

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 Phe Ser Tyr Pro Val Ile Ser Tyr Trp Val Asp Ser Gln Asp Gln
 Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly Ile Pro Arg Glu His
 Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly Ala Ala Leu Ala
 Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val Thr Val Leu
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                 680
 Phe Ala Leu Val Leu Ser Gly Ala Leu Ile Ile Leu Val Ala Ser
                                      700
                 695
 Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Glu
                                      715
 Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His
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Asp Phe Ala Arg Pro Leu Leu Pro Asn Thr Val Tyr Val Gly Gly

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Gly	Ser	Met	Val	Asn 305	Thr	Суз	Gln	Asn	Pro 310	Glu	Ile	Phe	Lys	Glu 315
Met	Asn	Asn	Ala	Phe 320	Ala	His	Leu	Pro	Gln 325	Gly	Val	Ile	Trp	Lys 330
Cys	Gln	Cys	Ser	His 335	Trp	Pro	Lys	Asp	Val 340	His	Leu	Ala	Ala	Asn 345
Val	Lys	Ile	Val	Asp 350	Trp	Leu	Pro	Gln	Ser 355	Asp	Leu	Leu	Ala	His 360
Pro	Ser	Ile	Arg	Leu 365	Phe	Val	Thr	His	Gly 370	Gly	Gln	Asn	Ser	Ile 375
Met	Glu	Ala	Ile	Gln 380	His	Gly	Val	Pro	Met 385	Val	Gly	Ile	Pro	Leu 390
Phe	Gly	Asp	Gln	Pro 395	Glu	Asn	Met	Val	Arg 400	Val	Glu	Ala	Lys	Lys 405
Phe	Gly	Val	Ser	Ile 410	Gln	Leu	Lys	Lys	Leu 415	Lys	Ala	Glu	Thr	Leu 420
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Ala	Ala	Val	Ala	Ala 440	Ser	Val	Ile	Leu	Arg 445	Ser	His	Pro	Leu	Ser 450
Pro	Thr	Gln	Arg	Leu 455	Val	Gly	Trp	Ile	Asp 460	His	Val	Leu	Gln	Thr 465
Gly	Gly	Ala	Thr	His 470	Leu	Lys	Pro	Tyr	Val 475	Phe	Gln	Gln	Pro	Trp 480
His	Glu	Gln	Tyr	Leu 485	Phe	Asp	Val	Phe	Val 490	Phe	Leu	Leu	Gly	Leu 495
Thr	Leu	Gly	Thr	Leu 500	Trp	Leu	Cys	Gly	Lys 505	Leu	Leu	Gly	Met	Ala 510
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Trp Ala Gln Glu Gly Ser Glu Pro Val Leu Leu Glu Gly Glu Cys 35 40 45

Leu Val Val Cys Glu Pro Gly Arg Ala Ala Ala Gly Gly Pro Gly
50 55 60

Gly Ala Ala Leu Gly Glu Ala Pro Pro Gly Arg Val Ala Phe Ala 65 70 75

Ala Val Arg Ser His His His Glu Pro Ala Gly Glu Thr Gly Asn $80\,$

Gly Thr Ser Gly Ala Ile Tyr Phe Asp Gln Val Leu Val Asn Glu 95 100 105

Gly Gly Gly Phe Asp Arg Ala Ser Gly Ser Phe Val Ala Pro Val 110 115 120

Arg Gln Thr Val Gln Val Ser Leu Met Leu Asn Thr Trp Pro Val 140 145 150

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Tyr Arg Arg Leu Asn Cys Arg Leu Ala Tyr Ser Leu Trp Ser Gln 50 55 60

Leu Val Met Leu Leu Glu Trp Trp Ser Cys Thr Glu Cys Thr Leu 65 70 75

Phe Thr Asp Gln Ala Thr Val Glu Arg Phe Gly Lys Glu His Ala 80 85 90

Val Ile Ile Leu Asn His Asn Phe Glu Ile Asp Phe Leu Cys Gly 95 100 105

Trp Thr Met Cys Glu Arg Phe Gly Val Leu Gly Ser Ser Lys Val
110 115 120

Leu Ala Lys Lys Glu Leu Leu Tyr Val Pro Leu Ile Gly Trp Thr 125 130 135

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Gly Leu Pro Val Leu Lys Tyr His Leu Leu Pro Arg Thr Lys Gly
Phe Thr Thr Ala Val Lys Cys Leu Arg Gly Thr Val Ala Ala Val
Tyr Asp Val Thr Leu Asn Phe Arg Gly Asn Lys Asn Pro Ser Leu
Leu Gly Ile Leu Tyr Gly Lys Lys Tyr Glu Ala Asp Met Cys Val
Arg Arg Phe Pro Leu Glu Asp Ile Pro Leu Asp Glu Lys Glu Ala
                 260
Ala Gln Trp Leu His Lys Leu Tyr Gln Glu Lys Asp Ala Leu Gln
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Glu Ile Tyr Asn Gln Lys Gly Met Phe Pro Gly Glu Gln Phe Lys
                 290
Pro Ala Arg Arg Pro Trp Thr Leu Leu Asn Phe Leu Ser Trp Ala
                                      310
                                                          315
                 305
Thr Ile Leu Leu Ser Pro Leu Phe Ser Phe Val Leu Gly Val Phe
                 320
                                      325
Ala Ser Gly Ser Pro Leu Leu Ile Leu Thr Phe Leu Gly Phe Val
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Gly Ala Ala Ser Phe Gly Val Arg Arg Leu Ile Gly Glu Ser Leu
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<223> Synthetic construct.
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<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-21
<223> Synthetic construct.
<400> 299
 gccacctcca tgctaacgcg g 21
<210> 300
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 300
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<210> 301
<211> 1334
<212> DNA
<213> Homo sapiens
<400> 301
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 tgtcctgggg cagccaccag gcatattcat ctttgtgtgt gtttttcttt 100
 tgctttagca ctggggcact tcttgcttat ttctttggta ggaaaggggc 150
 tcagtttqtc ttgtggggtt ggtggcaggc aggccggctt acgcctgata 200
 cggccctggg ttagaaggga agggaagata aacttttata caaatgggga 250
 tagctggggt ctgagacctg cttcctcagt aaaattcctg ggatctgcct 300
 atacettett ttetetaace tggcatacee tgettaaage eteteaggge 350
 ttctctctgt tcttaggatc aaagtattta gagctacaag agccctcatg 400
 gtctggcccc tgccccctg gccagcttca ttgtacatgt ggtgttctct 450
 tgtcgttcct gtaatgtggt atgccatggg gtctttgcac aagcctttcc 500
 tetttggetg gacactgtte cetgeecece ceatactett cetaettaat 550
 atgtagtcat cctgcagatt tcaattctaa catcattttc tccagggatc 600
 ctggcctgac agaatctcat cttgtttaat gctctcataa gaccacttgt 650
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 gttgtatggg ttgtgtctgt tccccagaat gcccagctct gagctgcgtg 750
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<210> 302 <211> 143 <212> PRT

<213> Homo sapiens

<400> 302

Met His His Ser Leu Gln Cys Pro Gly Ala Ala Thr Arg His Ile 1 5 10 15

His Leu Cys Val Cys Phe Ser Phe Ala Leu Ala Leu Gly His Phe 20 25 30

Leu Leu Ile Ser Leu Val Gly Lys Gly Leu Ser Leu Ser Cys Gly 35 40 45

Val Gly Gly Arg Gln Ala Gly Leu Arg Leu Ile Arg Pro Trp Val
50 55 60

Arg Arg Glu Gly Lys Ile Asn Phe Tyr Thr Asn Gly Asp Ser Trp
65 70 75

Gly Leu Arg Pro Ala Ser Ser Val Lys Phe Leu Gly Ser Ala Tyr 80 85 90

Thr Phe Phe Ser Leu Thr Trp His Thr Leu Leu Lys Ala Ser Gln 95 100 105

Gly Phe Ser Leu Phe Leu Gly Ser Lys Tyr Leu Glu Leu Gln Glu 110 115 120

Pro Ser Trp Ser Gly Pro Cys Pro Pro Gly Gln Leu His Cys Thr 125 130 135

Cys Gly Val Leu Leu Ser Phe Leu

<210> 303

<211> 1768

<212> DNA

<213> Homo sapiens

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<210> 304

<211> 109

<212> PRT

<213> Homo sapiens

<400> 304

Met Leu Trp Trp Leu Val Leu Leu Leu Leu Pro Thr Leu Lys Ser $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Val Phe Cys Ser Leu Val Thr Ser Leu Tyr Leu Pro Asn Thr Glu
20 25 30

Asp Leu Ser Leu Trp Leu Trp Pro Lys Pro Asp Leu His Ser Gly

Thr Arg Thr Glu Val Ser Thr His Thr Val Pro Ser Lys Pro Gly 50 55 60

Thr Ala Ser Pro Cys Trp Pro Leu Ala Gly Ala Val Pro Ser Pro
65 70 75

Thr Val Ser Arg Leu Glu Ala Leu Thr Arg Ala Val Gln Val Ala 80 85 90

Glu Pro Leu Gly Ser Cys Gly Phe Gln Gly Gly Pro Cys Pro Gly 95 100 105

Arg Arg Arg Asp

<210> 305

<211> 989

<212> DNA

<213> Homo sapiens

<400> 305

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<210> 306

<211> 262

<212> PRT

<213> Homo sapiens

<400> 306

Met Thr Gln Pro Val Pro Arg Leu Ser Val Pro Ala Ala Leu Ala 1 10 15

Leu Gly Ser Ala Ala Leu Gly Ala Ala Phe Ala Thr Gly Leu Phe $20 \\ 25 \\ 30$

Leu Gly Arg Arg Cys Pro Pro Trp Arg Gly Arg Arg Glu Gln Cys 35 40 45

Leu Leu Pro Pro Glu Asp Ser Arg Leu Trp Gln Tyr Leu Leu Ser
50 55 60

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Arg Ser Met Arg Glu His Pro Ala Leu Arg Ser Leu Arg Leu Leu
Thr Leu Glu Gln Pro Gln Gly Asp Ser Met Met Thr Cys Glu Gln
Ala Gln Leu Leu Ala Asn Leu Ala Arg Leu Ile Gln Ala Lys Lys
Ala Leu Asp Leu Gly Thr Phe Thr Gly Tyr Ser Ala Leu Ala Leu
Ala Leu Ala Leu Pro Ala Asp Gly Arg Val Val Thr Cys Glu Val
                                    130
Asp Ala Gln Pro Pro Glu Leu Gly Arg Pro Leu Trp Arg Gln Ala
                                    145
Glu Ala Glu His Lys Ile Asp Leu Arg Leu Lys Pro Ala Leu Glu
                                    160
Thr Leu Asp Glu Leu Leu Ala Ala Gly Glu Ala Gly Thr Phe Asp
                170
                                    175
                                                         180
Val Ala Val Val Asp Ala Asp Lys Glu Asn Cys Ser Ala Tyr Tyr
Glu Arg Cys Leu Gln Leu Leu Arg Pro Gly Gly Ile Leu Ala Val
Leu Arg Val Leu Trp Arg Gly Lys Val Leu Gln Pro Pro Lys Gly
Asp Val Ala Ala Glu Cys Val Arg Asn Leu Asn Glu Arg Ile Arg
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Arg Asp Val Arg Val Tyr Ile Ser Leu Leu Pro Leu Gly Asp Gly
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Leu Thr Leu Ala Phe Lys Ile
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<210> 307

<211> 2272

<212> DNA

<213> Homo sapiens

<400> 307

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aaatgtaaag acaagtacgg gaagcccaac aagaggaaag gcttcaatga 300 agggctgtgg gagatecaga acaaeceeca egecagetae agegeeeete 350 cgccagtgag ctcctccgac agcgaggccc ccgaggccaa ccccgccgac 400 ggcagtgacg ctgacgagga cgatgaggac cggggggtca tggccgtcac 450 ageggtaace gecacagetg ccagegacag gatggagage gactcagact 500 cagacaagag tagcgacaac agtggcctga agaggaagac gcctgcgcta 550 aagatgtcgg tctcgaaacg agcccgaaag gcctccagcg acctggatca 600 ggccagcgtg tccccatccg aagaggagaa ctcggaaagc tcatctgagt 650 cggagaagac cagcgaccag gacttcacac ctgagaagaa agcagcggtc 700 cgggcgccac ggaggggccc tctgggggga cggaaaaaaa agaaggcgcc 750 gtcagcctcc gactccgact ccaaggccga ttcggacggg gccaagcctg 800 ageoggtgge catggegegg teggegteet ecteeteete tteeteetee 850 tectecgact eggatgtet tgtgaagaag eetecgaggg geaggaagee 900 ageggagaag ceteteecga ageeggagg geggaaaceg aageetgaae 950 ggcctccqtc cagctccaqc aqtgacaqtg acaqcgacqa gqtqqaccgc 1000 atcagtgagt ggaageggeg ggacgaggeg eggaggegeg agetggagge 1050 ccggcggcgg cgagagcagg aggaggagct gcggcgcctg cgggagcagg 1100 agaaggagga gaaggagcgg aggccgagc gggccgaccg cggggaggct 1150 gagcggggca gcggcggcag cagcggggac gagctcaggg aggacgatga 1200 gecegteaag aageggggae geaagggeeg gggeeggggt eeeeegteet 1250 cctctgactc cgagcccgag gccgagctgg agagagaggc caagaaatca 1300 gcgaagaagc cgcagtcctc aagcacagag cccgccagga aacctggcca 1350 gaaggagaag agagtgcggc ccgaggagaa gcaacaagcc aagcccgtga 1400 aggtggagcg gacccggaag cggtccgagg gcttctcgat ggacaggaag 1450 gtagagaaga agaaagagcc ctccgtggag gagaagctgc agaagctgca 1500 cagtgagatc aagtttgccc taaaggtcga cagcccggac gtgaagaggt 1550 gcctgaatgc cctagaggag ctgggaaccc tgcaggtgac ctctcagatc 1600 ctccagaaga acacagacgt ggtggccacc ttgaagaaga ttcgccgtta 1650 caaagcgaac aaggacgtaa tggagaaggc agcagaagtc tatacccggc 1700

tcaagtcgcg ggtcctcggc ccaaagatcg aggcggtgca gaaagtgaac 1750
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agcgcagagg acaaggagca cgaggaggt cgggactcgg aggagggcc 1950
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gactcggagg ccctggacga ggagagctga gccggggca gccaggcca 2100
gcccccgccc gagctcaggc tgcccctctc cttccccggc tcgcaggaga 2150
gcagagcaga gaactgtggg gaacgctgtg ctgtttgtat ttgttccctt 2200
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actataaacg gttttttaat ga 2272

<210> 308

<211> 671

<212> PRT

<213> Homo sapiens

<400> 308

Met Pro His Ala Phe Lys Pro Gly Asp Leu Val Phe Ala Lys Met $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Lys Gly Tyr Pro His Trp Pro Ala Arg Ile Asp Asp Ile Ala Asp 20 25 30

Gly Ala Val Lys Pro Pro Pro Asn Lys Tyr Pro Ile Phe Phe Phe 45

Gly Thr His Glu Thr Ala Phe Leu Gly Pro Lys Asp Leu Phe Pro 50 55 60

Tyr Asp Lys Cys Lys Asp Lys Tyr Gly Lys Pro Asn Lys Arg Lys
65 70 75

Gly Phe Asn Glu Gly Leu Trp Glu Ile Gln Asn Asn Pro His Ala 80 85 90

Ser Tyr Ser Ala Pro Pro Pro Val Ser Ser Ser Asp Ser Glu Ala 95 100 105

Pro Glu Ala Asn Pro Ala Asp Gly Ser Asp Ala Asp Glu Asp Asp 110 115 120

Glu Asp Arg Gly Val Met Ala Val Thr Ala Val Thr Ala Thr Ala
125 130 135

Ala Ser Asp Arg Met Glu Ser Asp Ser Asp Ser Asp Lys Ser Ser

	140			145			150
Asp Asn Ser	Gly Leu 155	Lys Arg	Lys Thr	Pro Ala 160	Leu Lys	Met	Ser 165
Val Ser Lys	Arg Ala 170	Arg Lys	Ala Ser	Ser Asp 175	Leu Asp	Gln	Ala 180
Ser Val Ser	Pro Ser 185	Glu Glu	Glu Asr	Ser Glu 190	Ser Ser	Ser	Glu 195
Ser Glu Lys	Thr Ser 200	Asp Gln	Asp Phe	Thr Pro	Glu Lys	Lys	Ala 210
Ala Val Arg	Ala Pro 215	Arg Arg	Gly Pro	Leu Gly 220	Gly Arg	Lys	Lys 225
Lys Lys Ala	Pro Ser 230	Ala Ser	Asp Ser	Asp Ser 235	Lys Ala	Asp	Ser 240
Asp Gly Ala	Lys Pro 245	Glu Pro	Val Ala	Met Ala 250	Arg Ser	Ala	Ser 255
Ser Ser Ser	Ser Ser 260	Ser Ser	Ser Ser	Asp Ser 265	Asp Val	Ser	Val 270
Lys Lys Pro	Pro Arg 275	Gly Arg	Lys Pro	Ala Glu 280	Lys Pro	Leu	Pro 285
Lys Pro Arg	Gly Arg 290	Lys Pro	Lys Pro	Glu Arg 295	Pro Pro	Ser	Ser 300
Ser Ser Ser	Asp Ser 305	Asp Ser	Asp Glu	val Asp 310	Arg Ile	Ser	Glu 315
Trp Lys Arg	Arg Asp 320	Glu Ala	Arg Arg	g Arg Glu 325	Leu Glu	Ala	Arg 330
Arg Arg Arg	Glu Gln 335	Glu Glu	Glu Leu	a Arg Arg 340	Leu Arg	Glu	Gln 345
Glu Lys Glu	Glu Lys 350	Glu Arg	Arg Arg	g Glu Arg 355	Ala Asp	Arg	Gly 360
Glu Ala Glu	Arg Gly 365	Ser Gly	Gly Ser	Ser Gly 370	Asp Glu	Leu	Arg 375
Glu Asp Asp	Glu Pro 380	Val Lys	Lys Arq	g Gly Arg 385	Lys Gly	Arg	Gly 390
Arg Gly Pro	Pro Ser 395	Ser Ser	Asp Sei	Glu Pro 400	Glu Ala	Glu	Leu 405
Glu Arg Glu	Ala Lys 410	Lys Ser	Ala Lys	Lys Pro 415	Gln Ser	Ser	Ser 420
Thr Glu Pro	Ala Arg 425	Lys Pro	Gly Glr	Lys Glu 430	Lys Arg	Val	Arg 435

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Pro Glu Glu Lys Gln Gln Ala Lys Pro Val Lys Val Glu Arg Thr
Arg Lys Arg Ser Glu Gly Phe Ser Met Asp Arg Lys Val Glu Lys
                                     460
Lys Lys Glu Pro Ser Val Glu Glu Lys Leu Gln Lys Leu His Ser
Glu Ile Lys Phe Ala Leu Lys Val Asp Ser Pro Asp Val Lys Arg
                485
Cys Leu Asn Ala Leu Glu Glu Leu Gly Thr Leu Gln Val Thr Ser
Gln Ile Leu Gln Lys Asn Thr Asp Val Val Ala Thr Leu Lys Lys
                515
Ile Arg Arg Tyr Lys Ala Asn Lys Asp Val Met Glu Lys Ala Ala
Glu Val Tyr Thr Arg Leu Lys Ser Arg Val Leu Gly Pro Lys Ile
                                                         555
                545
Glu Ala Val Gln Lys Val Asn Lys Ala Gly Met Glu Lys Glu Lys
                560
Ala Glu Glu Lys Leu Ala Gly Glu Glu Leu Ala Gly Glu Glu Ala
                                     580
                575
Pro Gln Glu Lys Ala Glu Asp Lys Pro Ser Thr Asp Leu Ser Ala
                                     595
Pro Val Asn Gly Glu Ala Thr Ser Gln Lys Gly Glu Ser Ala Glu
                                     610
                                                         615
Asp Lys Glu His Glu Glu Gly Arg Asp Ser Glu Glu Gly Pro Arg
                620
                                     625
Cys Gly Ser Ser Glu Asp Leu His Asp Ser Val Arg Glu Gly Pro
                                     640
                                                         645
Asp Leu Asp Arg Pro Gly Ser Asp Arg Gln Glu Arg Glu Arg Ala
                                     655
Arg Gly Asp Ser Glu Ala Leu Asp Glu Glu Ser
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<210> 309

<211> 3871

<212> DNA

<213> Homo sapiens

<400> 309

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<211> 777

<212> PRT

<213> Homo sapiens

<400> 310

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Phe His Leu Phe Pro Ala Leu Met Met Leu Ser Met Thr Met Leu 20 25 30

Phe Leu Pro Val Thr Gly Thr Leu Lys Gln Asn Ile Pro Arg Leu 35 40 45

Lys Leu Thr Tyr Lys Asp Leu Leu Ser Asn Ser Cys Ile Pro 50 55 60

Phe Leu Gly Ser Ser Glu Gly Leu Asp Phe Gln Thr Leu Leu 65 70 75

Asp Glu Glu Arg Gly Arg Leu Leu Gly Ala Lys Asp His Ile

				80					85					90
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Tyr	Trp	Pro	Ala	Ala 110	Lys	Glu	Arg	Val	Glu 115	Leu	Cys	Lys	Leu	Ala 120
Gly	Lys	Asp	Ala	Asn 125	Thr	Glu	Cys	Ala	Asn 130	Phe	Ile	Arg	Val	Leu 135
Gln	Pro	Tyr	Asn	Lys 140	Thr	His	Ile	Tyr	Val 145	Cys	Gly	Thr	Gly	Ala 150
Phe	His	Pro	Ile	Cys 155	Gly	Tyr	Ile	Asp	Leu 160	Gly	Val	Tyr	Lys	Glu 165
Asp	Ile	Ile	Phe	Lys 170	Leu	Asp	Thr	His	Asn 175	Leu	Glu	Ser	Gly	Arg 180
Leu	Lys	Суз	Pro	Phe 185	Asp	Pro	Gln	Gln	Pro 190	Phe	Ala	Ser	Val	Met 195
Thr	Asp	Glu	Tyr	Leu 200	Tyr	Ser	Gly	Thr	Ala 205	Ser	Asp	Phe	Leu	Gly 210
Lys	Asp	Thr	Ala	Phe 215	Thr	Arg	Ser	Leu	Gly 220	Pro	Thr	His	Asp	His 225
His	Tyr	Ile	Arg	Thr 230	Asp	Ile	Ser	Glu	His 235	Tyr	Trp	Leu	Asn	Gly 240
Ala	Lys	Phe	Ile	Gly 245	Thr	Phe	Phe	Ile	Pro 250	Asp	Thr	Tyr	Asn	Pro 255
Asp	Asp	Asp	Lys	Ile 260	Tyr	Phe	Phe	Phe	Arg 265	Glu	Ser	Ser	Gln	Glu 270
Gly	Ser	Thr	Ser	Asp 275	Lys	Thr	Ile	Leu	Ser 280	Arg	Val	Gly	Arg	Val 285
Cys	Lys	Asn	Asp	Val 290	Gly	Gly	Gln	Arg	Ser 295	Leu	Ile	Asn	Lys	Trp 300
Thr	Thr	Phe	Leu	Lys 305	Ala	Arg	Leu	Ile	Cys 310	Ser	Ile	Pro	Gly	Ser 315
Asp	Gly	Ala	Asp	Thr 320	Tyr	Phe	Asp	Glu	Leu 325	Gln	Asp	Ile	Tyr	Leu 330
Leu	Pro	Thr	Arg	Asp 335	Glu	Arg	Asn	Pro	Val 340	Val	Tyr	Gly	Val	Phe 345
Thr	Thr	Thr	Ser	Ser 350	Ile	Phe	Lys	Gly	Ser 355	Ala	Val	Cys	Val	Tyr 360
Ser	Met	Ala	Asp	Ile	Arg	Ala	Val	Phe	Asn	Gly	Pro	Tyr	Ala	His

Lys	Glu	Ser	Ala	Asp 380	His	Arg	Trp	Val	Gln 385	Tyr	Asp	Gly	Arg	Ile 390
Pro	Tyr	Pro	Arg	Pro 395	Gly	Thr	Cys	Pro	Ser 400	Lys	Thr	Tyr	Asp	Pro 405
Leu	Ile	Lys	Ser	Thr 410	Arg	Asp	Phe	Pro	Asp 415	Asp	Val	Ile	Ser	Phe 420
Ile	Lys	Arg	His	Ser 425	Val	Met	Tyr	Lys	Ser 430	Val	Tyr	Pro	Val	Ala 435
Gly	Gly	Pro	Thr	Phe 440	Lys	Arg	Ile	Asn	Val 445	Asp	Tyr	Arg	Leu	Thr 450
Gln	Ile	Val	Val	Asp 455	His	Val	Ile	Ala	Glu 460	Asp	Gly	Gln	Tyr	Asp 465
Val	Met	Phe	Leu	Gly 470	Thr	Asp	Ile	Gly	Thr 475	Val	Leu	Lys	Val	Val 480
Ser	Ile	Ser	Lys	Glu 485	Lys	Trp	Asn	Met	Glu 490	Glu	Val	Val	Leu	Glu 495
Glu	Leu	Gln	Ile	Phe 500	Lys	His	Ser	Ser	Ile 505	Ile	Leu	Asn	Met	Glu 510
Leu	Ser	Leu	Lys	Gln 515	Gln	Gln	Leu	Tyr	Ile 520	Gly	Ser	Arg	Asp	Gly 525
Leu	Val	Gln	Leu	Ser 530	Leu	His	Arg	Cys	Asp 535	Thr	Tyr	Gly	Lys	Ala 540
Суз	Ala	Asp	Cys	Cys 545	Leu	Ala	Arg	Asp	Pro 550	Tyr	Cys	Ala	Trp	Asp 555
Gly	Asn	Ala	Cys	Ser 560	Arg	Tyr	Ala	Pro	Thr 565	Ser	Lys	Arg	Arg	Ala 570
Arg	Arg	Gln	Asp	Val 575	Lys	Tyr	Gly	Asp	Pro 580	Ile	Thr	Gln	Cys	Trp 585
Asp	Ile	Glu	Asp	Ser 590	Ile	Ser	His	Glu	Thr 595	Ala	Asp	Glu	Lys	Val 600
Ile	Phe	Gly	Ile	Glu 605	Phe	Asn	Ser	Thr	Phe 610	Leu	Glu	Суѕ	Ile	Pro 615
Lys	Ser	Gln	Gln	Ala 620	Thr	Ile	Lys	Trp	Tyr 625	Ile	Gln	Arg	Ser	Gly 630
Asp	Glu	His	Arg	Glu 635	Glu	Leu	Lys	Pro	Asp 640	Glu	Arg	Ile	Ile	Lys 645
Thr	Glu	Tyr	Gly	Leu 650	Leu	Ile	Arg	Ser	Leu 655	Gln	Lys	Lys	Asp	Ser 660
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<222> 1-45

<223> Synthetic construct.

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<210> 315

<211> 370

<212> PRT

<213> Homo sapiens

<400> 315

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<210> 316

<211> 4407

<212> DNA

<213> Homo sapiens

<400> 316

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<212> PRT

<213> Homo sapiens

<400> 317

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Trp Leu Trp Gly Ala Gln Pro Cys Leu Leu Pro Ile Val Pro 20 25 30

Leu Ser Trp Leu Val Trp Leu Leu Leu Leu Leu Leu Ala Ser Leu
35 40 45

Leu Pro Ser Ala Arg Leu Ala Ser Pro Leu Pro Arg Glu Glu Glu 50 55 60

Ile Val Phe Pro Glu Lys Leu Asn Gly Ser Val Leu Pro Gly Ser 65 70 75

Gly Ala Pro Ala Arg Leu Leu Cys Arg Leu Gln Ala Phe Gly Glu 80 85 90

Thr Leu Leu Glu Leu Glu Gln Asp Ser Gly Val Gln Val Glu 95 100 105

Gly Leu Thr Val Gln Tyr Leu Gly Gln Ala Pro Glu Leu Leu Gly 110 115 120

Gly Ala Glu Pro Gly Thr Tyr Leu Thr Gly Thr Ile Asn Gly Asp 125 130 135

Pro Glu Ser Val Ala Ser Leu His Trp Asp Gly Gly Ala Leu Leu

				140					145					150
Gly	Val	Leu	Gln	Tyr 155	Arg	Gly	Ala	Glu	Leu 160	His	Leu	Gln	Pro	Leu 165
Glu	Gly	Gly	Thr	Pro 170	Asn	Ser	Ala	Gly	Gly 175	Pro	Gly	Ala	His	Ile 180
Leu	Arg	Arg	Lys	Ser 185	Pro	Ala	Ser	Gly	Gln 190	Gly	Pro	Met	Cys	Asn 195
Val	Lys	Ala	Pro	Leu 200	Gly	Ser	Pro	Ser	Pro 205	Arg	Pro	Arg	Arg	Ala 210
Lys	Arg	Phe	Ala	Ser 215	Leu	Ser	Arg	Phe	Val 220	Glu	Thr	Leu	Val	Val 225
Ala	Asp	Asp	Lys	Met 230	Ala	Ala	Phe	His	Gly 235	Ala	Gly	Leu	Lys	Arg 240
Tyr	Leu	Leu	Thr	Val 245	Met	Ala	Ala	Ala	Ala 250	Lys	Ala	Phe	Lys	His 255
Pro	Ser	Ile	Arg	Asn 260	Pro	Val	Ser	Leu	Val 265	Val	Thr	Arg	Leu	Val 270
Ile	Leu	Gly	Ser	Gly 275	Glu	Glu	Gly	Pro	Gln 280	Val	Gly	Pro	Ser	Ala 285
Ala	Gln	Thr	Leu	Arg 290	Ser	Phe	Cys	Ala	Trp 295	Gln	Arg	Gly	Leu	Asn 300
Thr	Pro	Glu	Asp	Ser 305	Gly	Pro	Asp	His	Phe 310	Asp	Thr	Ala	Ile	Leu 315
Phe	Thr	Arg	Gln	Asp 320	Leu	Cys	Gly	Val	Ser 325	Thr	Суз	Asp	Thr	Leu 330
Gly	Met	Ala	Asp	Val 335	Gly	Thr	Val	Cys	Asp 340	Pro	Ala	Arg	Ser	Cys 345
Ala	Ile	Val	Glu	Asp 350	Asp	Gly	Leu	Gln	Ser 355	Ala	Phe	Thr	Ala	Ala 360
His	Glu	Leu	Gly	His 365	Val	Phe	Asn	Met	Leu 370	His	Asp	Asn	Ser	Lys 375
Pro	Cys	Ile	Ser	Leu 380	Asn	Gly	Pro	Leu	Ser 385	Thr	Ser	Arg	His	Val 390
Met	Ala	Pro	Val	Met 395	Ala	His	Val	Asp	Pro 400	Glu	Glu	Pro	Trp	Ser 405
Pro	Cys	Ser	Ala	Arg 410	Phe	Ile	Thr	Asp	Phe 415	Leu	Asp	Asn	Gly	Tyr 420
Gly	His	Cys	Leu	Leu 425	Asp	Lys	Pro	Glu	Ala 430	Pro	Leu	His	Leu	Pro 435

Val Thr Phe Pro Gly Lys Asp Tyr Asp Ala Asp Arg Gln Cys Gln Leu Thr Phe Gly Pro Asp Ser Arg His Cys Pro Gln Leu Pro Pro Pro Cys Ala Ala Leu Trp Cys Ser Gly His Leu Asn Gly His Ala Met Cys Gln Thr Lys His Ser Pro Trp Ala Asp Gly Thr Pro Cys Gly Pro Ala Gln Ala Cys Met Gly Gly Arg Cys Leu His Met Asp Gln Leu Gln Asp Phe Asn Ile Pro Gln Ala Gly Gly Trp Gly Pro 525 515 Trp Gly Pro Trp Gly Asp Cys Ser Arg Thr Cys Gly Gly Gly Val 530 535 Gln Phe Ser Ser Arg Asp Cys Thr Arg Pro Val Pro Arg Asn Gly 550 Gly Lys Tyr Cys Glu Gly Arg Arg Thr Arg Phe Arg Ser Cys Asn 565 Thr Glu Asp Cys Pro Thr Gly Ser Ala Leu Thr Phe Arg Glu Glu 585 Gln Cys Ala Ala Tyr Asn His Arg Thr Asp Leu Phe Lys Ser Phe 595 Pro Gly Pro Met Asp Trp Val Pro Arg Tyr Thr Gly Val Ala Pro Gln Asp Gln Cys Lys Leu Thr Cys Gln Ala Arg Ala Leu Gly Tyr Tyr Tyr Val Leu Glu Pro Arg Val Val Asp Gly Thr Pro Cys Ser Pro Asp Ser Ser Ser Val Cys Val Gln Gly Arg Cys Ile His Ala Gly Cys Asp Arg Ile Ile Gly Ser Lys Lys Phe Asp Lys Cys Met Val Cys Gly Gly Asp Gly Ser Gly Cys Ser Lys Gln Ser Gly Ser Phe Arg Lys Phe Arg Tyr Gly Tyr Asn Asn Val Val Thr Ile Pro Ala Gly Ala Thr His Ile Leu Val Arg Gln Gln Gly Asn Pro Gly His Arg Ser Ile Tyr Leu Ala Leu Lys Leu Pro Asp Gly Ser

<222> 1-43

<223> Synthetic construct.

735 730 725 Tyr Ala Leu Asn Gly Glu Tyr Thr Leu Met Pro Ser Pro Thr Asp 740 Val Val Leu Pro Gly Ala Val Ser Leu Arg Tyr Ser Gly Ala Thr 755 Ala Ala Ser Glu Thr Leu Ser Gly His Gly Pro Leu Ala Gln Pro Leu Thr Leu Gln Val Leu Val Ala Gly Asn Pro Gln Asp Thr Arg Leu Arg Tyr Ser Phe Phe Val Pro Arg Pro Thr Pro Ser Thr Pro 800 Arg Pro Thr Pro Gln Asp Trp Leu His Arg Arg Ala Gln Ile Leu 820 815 Glu Ile Leu Arg Arg Pro Trp Ala Gly Arg Lys 830 <210> 318 <211> 23 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-23 <223> Synthetic construct. <400> 318 ccctgaagct gccagatggc tcc 23 <210> 319 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 319 ctgtgctctt cggtgcagcc agtc 24 <210> 320 <211> 43 <212> DNA <213> Artificial <220> <221> Artificial Sequence

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aaccgagatt ttcttaaaaa ttccaaaatt ctggagattt gtgataacgt 600

gaccatgtat tggatcaatc ccactctaat atcagtttct gagttacaag 650

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gacccgtcac gccagacaag caagtgagga agaacttcca ataaatgact 800

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acctttacta ggctactacc catatccata ctgctaccaa ggaggacgag 950

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gggagggtct aataggaggt ttgagctcaa atgcttaaac tgctggcaac 1050

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cccctggtag ccagctctcc agaattactt gtaggtaatt cctctcttca 1150

<211> 317

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265

260

Arg Gly Asn Arg Tyr Cys Arg Arg Val Cys Glu Pro Leu Leu Gly 285

Tyr Tyr Pro Tyr Pro Tyr Cys Tyr Gln Gly Gly Arg Val Ile Cys 290 295 300

Arg Val Ile Met Pro Cys Asn Trp Trp Val Ala Arg Met Leu Gly 305 310 315

Arg Val

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<211> 1174

<212> DNA

<213> Homo sapiens

<400> 323

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ctttagagca cagggacaga gggggaaata agaggaggag aaagctctct 1000

ataccaaaga ctgaaaaaaa aaatcctgtc tgtttttgta tttattatat 1050 atatttatgt gggtgatttg ataacaagtt taatataaag tgacttggga 1100 gtttggtcag tggggttggt ttgtgatcca ggaataaacc ttgcggatgt 1150 ggctgtttat gaaaaaaaaa aaaa 1174

<210> 324

<211> 239

<212> PRT

<213> Homo sapiens

<400> 324

Met Ala Ser Thr Ala Val Gln Leu Leu Gly Phe Leu Leu Ser Phe 1 5 10 15

Leu Gly Met Val Gly Thr Leu Ile Thr Thr Ile Leu Pro His Trp
20 25 30

Arg Arg Thr Ala His Val Gly Thr Asn Ile Leu Thr Ala Val Ser 35 40 45

Tyr Leu Lys Gly Leu Trp Met Glu Cys Val Trp His Ser Thr Gly 50 55 60

Ile Tyr Gln Cys Gln Ile Tyr Arg Ser Leu Leu Ala Leu Pro Gln 65 70 75

Asp Leu Gln Ala Ala Arg Ala Leu Met Val Ile Ser Cys Leu Leu 80 85 90

Ser Gly Ile Ala Cys Ala Cys Ala Val Ile Gly Met Lys Cys Thr 95 100 105

Arg Cys Ala Lys Gly Thr Pro Ala Lys Thr Thr Phe Ala Ile Leu 110 115 120

Gly Gly Thr Leu Phe Ile Leu Ala Gly Leu Leu Cys Met Val Ala 125 130 135

Val Ser Trp Thr Thr Asn Asp Val Val Gln Asn Phe Tyr Asn Pro 140 145 150

Leu Leu Pro Ser Gly Met Lys Phe Glu Ile Gly Gln Ala Leu Tyr 155 160 165

Leu Gly Phe Ile Ser Ser Ser Leu Ser Leu Ile Gly Gly Thr Leu 170 175 180

Leu Cys Leu Ser Cys Gln Asp Glu Ala Pro Tyr Arg Pro Tyr Gln
185 190 190

Ala Pro Pro Arg Ala Thr Thr Thr Thr Ala Asn Thr Ala Pro Ala 200 205 210

Tyr Gln Pro Pro Ala Ala Tyr Lys Asp Asn Arg Ala Pro Ser Val 215 220 225

Thr Ser Ala Thr His Ser Gly Tyr Arg Leu Asn Asp Tyr Val 230 235

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<211> 2121

<212> DNA

<213> Homo sapiens

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<211> 261

<212> PRT

<213> Homo sapiens

<400> 326

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Leu Gly Leu Ala Gly Cys Ile Ala Ala Thr Gly Met Asp Met Trp 20 25 30

Ser Thr Gln Asp Leu Tyr Asp Asn Pro Val Thr Ser Val Phe Gln 35 40 45

Tyr Glu Gly Leu Trp Arg Ser Cys Val Arg Gln Ser Ser Gly Phe 50 55 60

Thr Glu Cys Arg Pro Tyr Phe Thr Ile Leu Gly Leu Pro Ala Met 65 70 75

Leu Gln Ala Val Arg Ala Leu Met Ile Val Gly Ile Val Leu Gly

80 85 90

Ala Ile Gly Leu Leu Val Ser Ile Phe Ala Leu Lys Cys Ile Arg 95 100 105

Ile Gly Ser Met Glu Asp Ser Ala Lys Ala Asn Met Thr Leu Thr 110 115 120

Ser Gly Ile Met Phe Ile Val Ser Gly Leu Cys Ala Ile Ala Gly 125 130 135

Val Ser Val Phe Ala Asn Met Leu Val Thr Asn Phe Trp Met Ser 140 145 150

Thr Ala Asn Met Tyr Thr Gly Met Gly Gly Met Val Gln Thr Val 155 160 165

Gln Thr Arg Tyr Thr Phe Gly Ala Ala Leu Phe Val Gly Trp Val 170 175 180

Ala Gly Gly Leu Thr Leu Ile Gly Gly Val Met Met Cys Ile Ala 185 190 195

Cys Arg Gly Leu Ala Pro Glu Glu Thr Asn Tyr Lys Ala Val Ser 200 205 210

Tyr His Ala Ser Gly His Ser Val Ala Tyr Lys Pro Gly Gly Phe 215 220 225

Lys Ala Ser Thr Gly Phe Gly Ser Asn Thr Lys Asn Lys Lys Ile 230 235 240

Tyr Asp Gly Gly Ala Arg Thr Glu Asp Glu Val Gln Ser Tyr Pro 245 250 255

Ser Lys His Asp Tyr Val 260

<210> 327

<211> 2010

<212> DNA

<213> Homo sapiens

<400> 327

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tgctgcttcc gtgatgtcct tcttggcttt catgatggcc atccttggca 400 tgaaatgcac caggtgcacg ggggacaatg agaaggtgaa ggctcacatt 450 ctgctgacgg ctggaatcat cttcatcatc acgggcatgg tggtgctcat 500 ccctgtgagc tgggttgcca atgccatcat cagagatttc tataactcaa 550 tagtgaatgt tgcccaaaaa cgtgagcttg gagaagctct ctacttagga 600 tggaccacgg cactggtgct gattgttgga ggagctctgt tctgctgcgt 650 tttttgttgc aacgaaaaga gcagtagcta cagatactcg ataccttccc 700 atcgcacaac ccaaaaaagt tatcacaccg gaaagaagtc accgagcgtc 750 tactccagaa gtcagtatgt gtagttgtgt atgttttttt aactttacta 800 taaagccatg caaatgacaa aaatctatat tactttctca aaatggaccc 850 caaagaaact ttgatttact gttcttaact gcctaatctt aattacagga 900 actgtgcatc agctatttat gattctataa gctatttcag cagaatgaga 950 tattaaaccc aatgctttga ttgttctaga aagtatagta atttgttttc 1000 taaggtggtt caagcatcta ctctttttat catttacttc aaaatgacat 1050 tgctaaagac tgcattattt tactactgta atttctccac gacatagcat 1100 tatgtacata gatgagtgta acatttatat ctcacataga gacatgctta 1150 tatggtttta tttaaaatga aatgccagtc cattacactg aataaataga 1200 actcaactat tgcttttcag ggaaatcatg gatagggttg aagaaggtta 1250 ctattaattg tttaaaaaca gcttagggat taatgtcctc catttataat 1300 gaagattaaa atgaaggctt taatcagcat tgtaaaggaa attgaatggc 1350 tttctgatat gctgtttttt agcctaggag ttagaaatcc taacttcttt 1400 atcctcttct cccagaggct ttttttttct tgtgtattaa attaacattt 1450 ttaaaacgca gatattttgt caaggggctt tgcattcaaa ctgcttttcc 1500 agggctatac tcagaagaaa gataaaagtg tgatctaaga aaaagtgatg 1550 gttttaggaa agtgaaaata tttttgtttt tgtatttgaa gaagaatgat 1600 qcattttgac aagaaatcat atatgtatgg atatatttta ataagtattt 1650 gagtacagac tttgaggttt catcaatata aataaaagag cagaaaaata 1700 tgtcttggtt ttcatttgct taccaaaaaa acaacaacaa aaaaagttgt 1750 cctttgagaa cttcacctgc tcctatgtgg gtacctgagt caaaattgtc 1800 attttgttc tgtgaaaaat aaatttcctt cttgtaccat ttctgtttag 1850 ttttactaaa atctgtaaat actgtattt tctgtttatt ccaaatttga 1900 tgaaactgac aatccaattt gaaagtttgt gtcgacgtct gtctagctta 1950 aatgaatgtg ttctatttgc tttatacatt tatattaata aattgtacat 2000 ttttctaatt 2010

<210> 328

<211> 225

<212> PRT

<213> Homo sapiens

<400> 328

Met Ala Thr His Ala Leu Glu Ile Ala Gly Leu Phe Leu Gly Gly
1 5 10 15

Val Gly Met Val Gly Thr Val Ala Val Thr Val Met Pro Gln Trp 20 25 30

Arg Val Ser Ala Phe Ile Glu Asn Asn Ile Val Val Phe Glu Asn 35 40 45

Phe Trp Glu Gly Leu Trp Met Asn Cys Val Arg Gln Ala Asn Ile 50 55 60

Arg Met Gln Cys Lys Ile Tyr Asp Ser Leu Leu Ala Leu Ser Pro 65 70 75

Asp Leu Gln Ala Ala Arg Gly Leu Met Cys Ala Ala Ser Val Met 80 85 90

Ser Phe Leu Ala Phe Met Met Ala Ile Leu Gly Met Lys Cys Thr 95 100 105

Arg Cys Thr Gly Asp Asn Glu Lys Val Lys Ala His Ile Leu Leu 110 115 120

Thr Ala Gly Ile Ile Phe Ile Ile Thr Gly Met Val Val Leu Ile 125 130 135

Pro Val Ser Trp Val Ala Asn Ala Ile Ile Arg Asp Phe Tyr Asn 140 145 150

Ser Ile Val Asn Val Ala Gln Lys Arg Glu Leu Gly Glu Ala Leu 155 160 165

Tyr Leu Gly Trp Thr Thr Ala Leu Val Leu Ile Val Gly Gly Ala 170 175 180

Leu Phe Cys Cys Val Phe Cys Cys Asn Glu Lys Ser Ser Syr Tyr

Arg Tyr Ser Ile Pro Ser His Arg Thr Thr Gln Lys Ser Tyr His 200 205 210

Thr Gly Lys Lys Ser Pro Ser Val Tyr Ser Arg Ser Gln Tyr Val 215 220 225

<210> 329

<211> 1315

<212> DNA

<213> Homo sapiens

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<210> 330

<211> 220

<212> PRT

<213> Homo sapiens

<400> 330

Met Ala Ser Ala Gly Met Gln Ile Leu Gly Val Val Leu Thr Leu
1 5 10 15

Leu Gly Trp Val Asn Gly Leu Val Ser Cys Ala Leu Pro Met Trp 20 25 30

Lys Val Thr Ala Phe Ile Gly Asn Ser Ile Val Val Ala Gln Val 35 40 45

Val Trp Glu Gly Leu Trp Met Ser Cys Val Val Gln Ser Thr Gly 50 55 60

Gln Met Gln Cys Lys Val Tyr Asp Ser Leu Leu Ala Leu Pro Gln 65 70 75

Asp Leu Gln Ala Ala Arg Ala Leu Cys Val Ile Ala Leu Leu Val 80 85 90

Ala Leu Phe Gly Leu Leu Val Tyr Leu Ala Gly Ala Lys Cys Thr 95 100 105

Thr Cys Val Glu Glu Lys Asp Ser Lys Ala Arg Leu Val Leu Thr 110 115 120

Ser Gly Ile Val Phe Val Ile Ser Gly Val Leu Thr Leu Ile Pro 125 130 135

Val Cys Trp Thr Ala His Ala Ile Ile Arg Asp Phe Tyr Asn Pro 140 145 150

Leu Val Ala Glu Ala Gln Lys Arg Glu Leu Gly Ala Ser Leu Tyr 155 160 165

Leu Gly Trp Ala Ala Ser Gly Leu Leu Leu Gly Gly Gly Leu 170 175 180

Leu Cys Cys Thr Cys Pro Ser Gly Gly Ser Gln Gly Pro Ser His
185 190 195

Tyr Met Ala Arg Tyr Ser Thr Ser Ala Pro Ala Ile Ser Arg Gly 200 205 210

Pro Ser Glu Tyr Pro Thr Lys Asn Tyr Val 215 220

<210> 331

<211> 1160

<212> DNA

<213> Homo sapiens

<400> 331 gccaaggaga acatcatcaa agacttctct agactcaaaa ggcttccacg 50 ttctacatct tgagcatctt ctaccactcc gaattgaacc agtcttcaaa 100 gtaaaggcaa tggcatttta tcccttgcaa attgctgggc tggttcttgg 150 gttccttggc atggtgggga ctcttgccac aacccttctg cctcagtggt 200 ggagtatcag cttttgttgg cagcaacatt attgtctttg agaggctctg 250 ggaagggctc tggatgaatt gcatccgaca agccagggtc cggttgcaat 300 gcaagttcta tagctccttg ttggctctcc cgcctgccct ggaaacagcc 350 cgggccctca tgtgtgtggc tgttgctctc tccttgatcg ccctgcttat 400 tggcatctgt ggcatgaagc aggtccagtg cacaggctct aacgagaggg 450 ccaaagcata ccttctggga acttcaggag tcctcttcat cctgacgggt 500 atcttcgttc tgattccggt gagctggaca gccaatataa tcatcagaga 550 tttctacaac ccagccatcc acataggtca gaaacgagag ctgggagcag 600 cacttttcct tggctgggca agcgctgctg tcctcttcat tggagggggt 650 ctgctttgtg gattttgctg ctgcaacaga aagaagcaag ggtacagata 700 tccagtgcct ggctaccgtg tgccacacac agataagcga agaaatacga 750 caatgcttag taagacctcc accagttatg tctaatgcct ccttttggct 800 ccaagtatgg actatggtca atgttttta taaagtcctg ctagaaactg 850 taagtatgtg aggcaggaga acttgcttta tgtctagatt tacattgata 900 cgaaagtttc aatttgttac tggtggtagg aatgaaaatg acttacttgg 950 acattctgac ttcaggtgta ttaaatgcat tgactattgt tggacccaat 1000 cgctgctcca attttcatat tctaaattca agtataccca taatcattag 1050 caagtgtaca atgatggact acttattact ttttgaccat catgtattat 1100 ctgataagaa tctaaagttg aaattgatat tctataacaa taaaacatat 1150 acctattcta 1160

Met Asn Cys Ile Arg Gln Ala Arg Val Arg Leu Gln Cys Lys Phe

<210> 332

<211> 173

<212> PRT

<213> Homo sapiens

<400> 332

15 10 5 1 Tyr Ser Ser Leu Leu Ala Leu Pro Pro Ala Leu Glu Thr Ala Arg Ala Leu Met Cys Val Ala Val Ala Leu Ser Leu Ile Ala Leu Leu Ile Gly Ile Cys Gly Met Lys Gln Val Gln Cys Thr Gly Ser Asn Glu Arg Ala Lys Ala Tyr Leu Leu Gly Thr Ser Gly Val Leu Phe Ile Leu Thr Gly Ile Phe Val Leu Ile Pro Val Ser Trp Thr Ala Asn Ile Ile Ile Arg Asp Phe Tyr Asn Pro Ala Ile His Ile Gly 105 Gln Lys Arg Glu Leu Gly Ala Ala Leu Phe Leu Gly Trp Ala Ser 110 Ala Ala Val Leu Phe Ile Gly Gly Gly Leu Leu Cys Gly Phe Cys 135 125 Cys Cys Asn Arg Lys Lys Gln Gly Tyr Arg Tyr Pro Val Pro Gly 140 Tyr Arg Val Pro His Thr Asp Lys Arg Arg Asn Thr Thr Met Leu 155 Ser Lys Thr Ser Thr Ser Tyr Val 170 <210> 333 <211> 535 <212> DNA <213> Homo sapiens

<400> 333

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- <210> 334
- <211> 85
- <212> PRT
- <213> Homo sapiens

<400> 334

Met Lys Ile Thr Gly Gly Leu Leu Leu Cys Thr Val Val Tyr 1 5 10 15

Phe Cys Ser Ser Ser Glu Ala Ala Ser Leu Ser Pro Lys Lys Val 20 25 30

Asp Cys Ser Ile Tyr Lys Lys Tyr Pro Val Val Ala Ile Pro Cys 35 40 45

Pro Ile Thr Tyr Leu Pro Val Cys Gly Ser Asp Tyr Ile Thr Tyr 50 55 60

Gly Asn Glu Cys His Leu Cys Thr Glu Ser Leu Lys Ser Asn Gly
65 70 75

Arg Val Gln Phe Leu His Asp Gly Ser Cys 80 85

- <210> 335
- <211> 742
- <212> DNA
- <213> Homo sapiens

<400> 335

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ctgetegege eeegeegea tggetgeete eeeeggegg eetgetgtee 100
tggeeetgae egggetggeg etgeteetge teetgtgetg gggeeeaggt 150
ggeataagtg gaaataaact eaagetgatg etteaaaaac gagaageace 200
tgtteeaact aagactaaag tggeegttga tgagaataaa geeaaagaat 250
teettggeag eetgaagege eagaagegge agetgtggga eeggaetegg 300
eeegaggtge ageagtggta eeageagtt etetacatgg getttgatga 350
agegaaatt gaagatgaca teacetattg gettaacaga gategaaatg 400
gacatgaata etatggegat taetaceae gteactatga tgaagaetet 450
geaattggte eeeggageee etaeggettt aggeatggag eeagegteaa 500
etaegatgae taetaaceat gaettgeeae aegetgtaea agaageaaat 550
agegattete tteatgtate teetaatgee ttaeaetaet tggtttetga 600

tttgctctat ttcagcagat cttttctacc tactttgtgt gatcaaaaaa 650 gaagagttaa aacaacacat gtaaatgcct tttgatattt catgggaatg 700 cctctcattt aaaaatagaa ataaagcatt ttgttaaaaa ga 742

<210> 336

<211> 148

<212> PRT

<213> Homo sapiens

<400> 336

Met Ala Ala Ser Pro Ala Arg Pro Ala Val Leu Ala Leu Thr Gly
1 5 10 15

Leu Ala Leu Leu Leu Leu Cys Trp Gly Pro Gly Gly Ile Ser 20 25 30

Gly Asn Lys Leu Lys Leu Met Leu Gln Lys Arg Glu Ala Pro Val 35 40 45

Pro Thr Lys Thr Lys Val Ala Val Asp Glu Asn Lys Ala Lys Glu . 50 55 60

Phe Leu Gly Ser Leu Lys Arg Gln Lys Arg Gln Leu Trp Asp Arg
65 70 75

Thr Arg Pro Glu Val Gln Gln Trp Tyr Gln Gln Phe Leu Tyr Met 80 85 90

Gly Phe Asp Glu Ala Lys Phe Glu Asp Asp Ile Thr Tyr Trp Leu 95 100 105

Asn Arg Asp Arg Asn Gly His Glu Tyr Tyr Gly Asp Tyr Tyr Gln 110 115 120

Arg His Tyr Asp Glu Asp Ser Ala Ile Gly Pro Arg Ser Pro Tyr 125 130 135

Gly Phe Arg His Gly Ala Ser Val Asn Tyr Asp Asp Tyr 140 145

<210> 337

<211> 1310

<212> DNA

<213> Homo sapiens

<400> 337

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tgaaggggtg ggtgatgagg tgaccgtcct tttctcggtg cttgcctgcc 150
ttctggtgct ggcccttgcc tgggtctcaa cgcacaccgc tgagggcggg 200
gacccactgc cccagccgtc agggacccca acgccatccc agcccagcgc 250

agccatggca gctaccgaca gcatgagagg ggaggcccca ggggcagaga 300 ccccagect gagacacaga ggtcaagetg cacagecaga geccageaeg 350 gggttcacag caacaccgcc agccccggac tccccgcagg agcccctcgt 400 gctacggctg aaattcctca atgattcaga gcaggtggcc agggcctggc 450 cccacgacac cattggctcc ttgaaaagga cccagtttcc cggccgggaa 500 cagcaggtgc gactcatcta ccaagggcag ctgctaggcg acgacaccca 550 gaccetggge ageetteace teecteecaa etgegttete caetgecaeg 600 tgtccacgag agtcggtccc ccaaatcccc cctgcccgcc ggggtccgag 650 cccggcccct ccgggctgga aatcggcagc ctgctgctgc ccctgctgct 700 cctgctgttg ctgctgctct ggtactgcca gatccagtac cggcccttct 750 ttcccctgac cgccactctg ggcctggccg gcttcaccct gctcctcagt 800 ctcctggcct ttgccatgta ccgcccgtag tgcctccgcg ggcgcttggc 850 agcqtcqccq qccctccqq accttgctcc ccgcgccgcg gcgggagctg 900 ctgcctgccc aggcccgcct ctccggcctg cctcttcccg ctgccctgga 950 geccageeet gegeegeaga ggaeteeegg gaetggegga ggeeeegeee 1000 tgcgaccgcc ggggctcggg gccacctccc ggggctgctg aacctcagcc 1050 cgcactggga gtgggctcct cggggtcggg catctgctgt cgctgcctcg 1100 gccccgggca gagccgggcc gccccggggg cccgtcttag tgttctgccg 1150 gaggacccag ccgcctccaa tccctgacag ctccttgggc tgagttgggg 1200 acgccaggtc ggtgggaggc tggtgaaggg gagcggggag gggcagagga 1250 gttccccgga acccgtgcag attaaagtaa ctgtgaagtt ttaaaaaaaa 1300 aaaaaaaaaa 1310

<210> 338

<211> 246

<212> PRT

<213> Homo sapiens

<400> 338

Met Thr Leu Ile Glu Gly Val Gly Asp Glu Val Thr Val Leu Phe 1 5 10 15

Ser Val Leu Ala Cys Leu Leu Val Leu Ala Leu Ala Trp Val Ser 20 25 30

Thr His Thr Ala Glu Gly Gly Asp Pro Leu Pro Gln Pro Ser Gly 35 40 45

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Thr Pro Thr Pro Ser Gln Pro Ser Ala Ala Met Ala Ala Thr Asp
Ser Met Arg Gly Glu Ala Pro Gly Ala Glu Thr Pro Ser Leu Arg
His Arg Gly Gln Ala Ala Gln Pro Glu Pro Ser Thr Gly Phe Thr
Ala Thr Pro Pro Ala Pro Asp Ser Pro Gln Glu Pro Leu Val Leu
                 95
Arg Leu Lys Phe Leu Asn Asp Ser Glu Gln Val Ala Arg Ala Trp
                110
Pro His Asp Thr Ile Gly Ser Leu Lys Arg Thr Gln Phe Pro Gly
                                                        135
                                    130
Arg Glu Gln Gln Val Arg Leu Ile Tyr Gln Gly Gln Leu Leu Gly
Asp Asp Thr Gln Thr Leu Gly Ser Leu His Leu Pro Pro Asn Cys
                                                         165
Val Leu His Cys His Val Ser Thr Arg Val Gly Pro Pro Asn Pro
Pro Cys Pro Pro Gly Ser Glu Pro Gly Pro Ser Gly Leu Glu Ile
Gly Ser Leu Leu Leu Pro Leu Leu Leu Leu Leu Leu Leu Leu
Trp Tyr Cys Gln Ile Gln Tyr Arg Pro Phe Phe Pro Leu Thr Ala
Thr Leu Gly Leu Ala Gly Phe Thr Leu Leu Leu Ser Leu Leu Ala
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                                                         240
                230
Phe Ala Met Tyr Arg Pro
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<210> 339

<211> 849

<212> DNA

<213> Homo sapiens

<400> 339

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caagacccta agaaccatca gccctcagct gcacctcctc ccctccaagg 150
atgacaaagg cgctactcat ctatttggtc agcagctttc ttgccctaaa 200
tcaggccagc ctcatcagtc gctgtgactt ggcccaggtg ctgcagctgg 250

aggacttgga tgggtttgag ggttactccc tgagtgactg gctgtgcctg 300 gcttttgtgg aaagcaagtt caacatatca aagataaatg aaaatgcgga 350 tggaagcttt gactatggcc tcttccagat caacagccac tactggtgca 400 acgattataa gagttactcg gaaaaccttt gccacgtaga ctgtcaagat 450 ctgctgaatc ccaaccttct tgcaggcatc cactgcgcaa aaaggattgt 500 gtccggagca cgggggatga acaactgggt agaatggagg ttgcactgtt 550 caggccggcc actctcctac tggctgacag gatgccgcct gagatgaaac 600 agggtgcggg tgcaccgtgg agtcattcca agactcctgt cctcactcag 650 ggattcttca tttcttctc ctactgcctc cacttcatgt tattttctc 700 ccttcccatt tacaactaaa actgaccaga gccccaggaa taaatggtt 750 tcttggcttc ctccttactc ccactctggac ccagtcccct ggttcctgtc 800 tgttatttgt aaactgagga ccacaataaa gaaatcttta tatttatcg 849

<210> 340

<211> 148

<212> PRT

<213> Homo sapiens

<400> 340

Met Thr Lys Ala Leu Leu Ile Tyr Leu Val Ser Ser Phe Leu Ala 1 5 10 15

Leu Asn Gln Ala Ser Leu Ile Ser Arg Cys Asp Leu Ala Gln Val 20 25 30

Leu Gl
n Leu Glu Asp Leu Asp Gly Phe Glu Gly Tyr Ser Leu Ser 35 40 45

Asp Trp Leu Cys Leu Ala Phe Val Glu Ser Lys Phe Asn Ile Ser 50 55 60

Lys Ile Asn Glu Asn Ala Asp Gly Ser Phe Asp Tyr Gly Leu Phe 65 70 75

Gln Ile Asn Ser His Tyr Trp Cys Asn Asp Tyr Lys Ser Tyr Ser 80 85 90

Glu Asn Leu Cys His Val Asp Cys Gln Asp Leu Leu Asn Pro Asn 95 100 105

Leu Leu Ala Gly Ile His Cys Ala Lys Arg Ile Val Ser Gly Ala 110 115 120

Arg Gly Met Asn Asn Trp Val Glu Trp Arg Leu His Cys Ser Gly
125 130 135

Arg Pro Leu Ser Tyr Trp Leu Thr Gly Cys Arg Leu Arg

145

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<210> 341
<211> 23
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 341
 ccctccaagg atgacaaagg cgc 23
<210> 342
<211> 29
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-29
<223> Synthetic construct.
<400> 342
 ggtcagcagc tttcttgccc taaatcagg 29
<210> 343
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 343
atctcaggcg gcatcctgtc agcc 24
<210> 344
<211> 24
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<222> 1-24
<223> Synthetic construct.
<400> 344
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<210> 345
<211> 45
<212> DNA
<213> Artificial
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tctgtttcca tgatgaggcc tggtccactc tcctgcggac tgtacacagc 1100

atcctcgaca cagtgcccag ggccttcctg aaggagatca tcctcgtgga 1150 cgacctcagc cagcaaggac aactcaagtc tgctctcagc gaatatgtgg 1200 ccaggctgga gggggtgaag ttactcagga gcaacaagag gctgggtgcc 1250 atcagggccc ggatgctggg ggccaccaga gccaccgggg atgtgctcgt 1300 cttcatggat qcccactgcq aqtqccaccc aggctqqctq gaqcccctcc 1350 tcagcagaat agctggtgac aggagccgag tggtatctcc ggtgatagat 1400 qtqattqact qqaaqacttt ccaqtattac ccctcaaagg acctgcagcg 1450 tggggtgttg gactggaage tggattteca etgggaacet ttgccagage 1500 atgtgaggaa ggccctccag tcccccataa gccccatcag gagccctgtg 1550 gtgcccggag aggtggtggc catggacaga cattacttcc aaaacactgg 1600 agcgtatgac tctcttatgt cgctgcgagg tggtgaaaac ctcgaactgt 1650 ctttcaaggc ctggctctgt ggtggctctg ttgaaatcct tccctgctct 1700 cgggtaggac acatctacca aaatcaggat tcccattccc ccctcgacca 1750 ggaggccacc ctgaggaaca gggttcgcat tgctgagacc tggctggggt 1800 cattcaaaga aaccttctac aagcatagcc cagaggcctt ctccttgagc 1850 aaggctgaga agccagactg catggaacgc ttgcagctgc aaaggagact 1900 gggttgtcgg acattccact ggtttctggc taatgtctac cctgagctgt 1950 acccatctga acccaggccc agtttctctg gaaagctcca caacactgga 2000 cttgggctct gtgcagactg ccaggcagaa ggggacatcc tgggctgtcc 2050 catggtgttg gctccttgca gtgacagccg gcagcaacag tacctgcagc 2100 acaccagcag gaaggagatt cactttggca gcccacagca cctgtgcttt 2150 gctgtcaggc aggagcaggt gattcttcag aactgcacgg aggaaggcct 2200 ggccatccac cagcagcact gggacttcca ggagaatggg atgattgtcc 2250 acattette tgggaaatge atggaagetg tggtgeaaga aaacaataaa 2300 gatttgtacc tgcgtccgtg tgatggaaaa gcccgccagc agtggcgatt 2350 tgaccagata aatgctgtgg atgaacgatg aatgtcaatg tcagaaggaa 2400 aagagaattt tggccatcaa aatccagctc caagtgaacg taaagagctt 2450 atatatttca tgaagctgat ccttttgtgt gtgtgctcct tgtgttagga 2500 gagaaaaaag ctctatgaaa gaatatagga agtttctcct tttcacacct 2550

tatttcattg actgctggct gctta 2575

<210> 347

<211> 639

<212> PRT

<213> Homo sapiens

<400> 347

Met Leu Leu Arg Lys Arg Tyr Arg His Arg Pro Cys Arg Leu Gln
1 5 10 15

Phe Leu Leu Leu Leu Met Leu Gly Cys Val Leu Met Met Val
20 25 30

Ala Met Leu His Pro Pro His His Thr Leu His Gln Thr Val Thr 35 40 45

Ala Gln Ala Ser Lys His Ser Pro Glu Ala Arg Tyr Arg Leu Asp
50 55 60

Phe Gly Glu Ser Gln Asp Trp Val Leu Glu Ala Glu Asp Glu Gly
65 70 75

Glu Glu Tyr Ser Pro Leu Glu Gly Leu Pro Pro Phe Ile Ser Leu 80 85 90

Arg Glu Asp Gln Leu Leu Val Ala Val Ala Leu Pro Gln Ala Arg 95 100 105

Arg Asn Gln Ser Gln Gly Arg Arg Gly Gly Ser Tyr Arg Leu Ile 110 115 120

Lys Gln Pro Arg Arg Gln Asp Lys Glu Ala Pro Lys Arg Asp Trp
125
130
135

Gly Ala Asp Glu Asp Gly Glu Val Ser Glu Glu Glu Glu Leu Thr \$140\$ \$145\$ 150

Pro Phe Ser Leu Asp Pro Arg Gly Leu Gln Glu Ala Leu Ser Ala 155 160 165

Arg Ile Pro Leu Gln Arg Ala Leu Pro Glu Val Arg His Pro Leu 170 175 180

Cys Leu Gln Gln His Pro Gln Asp Ser Leu Pro Thr Ala Ser Val 185 190

Ile Leu Cys Phe His Asp Glu Ala Trp Ser Thr Leu Leu Arg Thr

Val His Ser Ile Leu Asp Thr Val Pro Arg Ala Phe Leu Lys Glu

Ile Ile Leu Val Asp Asp Leu Ser Gln Gln Gly Gln Leu Lys Ser 230 235 240

Ala Leu Ser Glu Tyr Val Ala Arg Leu Glu Gly Val Lys Leu Leu 245 250 255

Arg Ser Asn Lys Arg Leu Gly Ala Ile Arg Ala Arg Met Leu Gly Ala Thr Arg Ala Thr Gly Asp Val Leu Val Phe Met Asp Ala His Cys Glu Cys His Pro Gly Trp Leu Glu Pro Leu Leu Ser Arg Ile Ala Gly Asp Arg Ser Arg Val Val Ser Pro Val Ile Asp Val Ile Asp Trp Lys Thr Phe Gln Tyr Tyr Pro Ser Lys Asp Leu Gln Arg Gly Val Leu Asp Trp Lys Leu Asp Phe His Trp Glu Pro Leu Pro 335 345 Glu His Val Arg Lys Ala Leu Gln Ser Pro Ile Ser Pro Ile Arg Ser Pro Val Val Pro Gly Glu Val Val Ala Met Asp Arg His Tyr Phe Gln Asn Thr Gly Ala Tyr Asp Ser Leu Met Ser Leu Arg Gly Gly Glu Asn Leu Glu Leu Ser Phe Lys Ala Trp Leu Cys Gly Gly Ser Val Glu Ile Leu Pro Cys Ser Arg Val Gly His Ile Tyr Gln Asn Gln Asp Ser His Ser Pro Leu Asp Gln Glu Ala Thr Leu Arg Asn Arg Val Arg Ile Ala Glu Thr Trp Leu Gly Ser Phe Lys Glu Thr Phe Tyr Lys His Ser Pro Glu Ala Phe Ser Leu Ser Lys Ala Glu Lys Pro Asp Cys Met Glu Arg Leu Gln Leu Gln Arg Arg Leu Gly Cys Arg Thr Phe His Trp Phe Leu Ala Asn Val Tyr Pro Glu Leu Tyr Pro Ser Glu Pro Arg Pro Ser Phe Ser Gly Lys Leu His 510 Asn Thr Gly Leu Gly Leu Cys Ala Asp Cys Gln Ala Glu Gly Asp Ile Leu Gly Cys Pro Met Val Leu Ala Pro Cys Ser Asp Ser Arg Gln Gln Gln Tyr Leu Gln His Thr Ser Arg Lys Glu Ile His Phe

545 550 555 Gly Ser Pro Gln His Leu Cys Phe Ala Val Arg Gln Glu Gln Val Ile Leu Gln Asn Cys Thr Glu Glu Gly Leu Ala Ile His Gln Gln 580 575 His Trp Asp Phe Gln Glu Asn Gly Met Ile Val His Ile Leu Ser Gly Lys Cys Met Glu Ala Val Val Gln Glu Asn Asn Lys Asp Leu 605 Tyr Leu Arg Pro Cys Asp Gly Lys Ala Arg Gln Gln Trp Arg Phe 625 Asp Gln Ile Asn Ala Val Asp Glu Arg <210> 348 <211> 23 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-23 <223> Synthetic construct. <400> 348 ggagaggtgg tggccatgga cag 23 <210> 349 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 349 ctgtcactgc aaggagccaa cacc 24 <210> 350 <211> 45 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-45 <223> Synthetic construct. <400> 350

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<210> 351 <211> 2524 <212> DNA <213> Homo sapiens

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<210> 352

<211> 243

<212> PRT

<213> Homo sapiens

<400> 352

Met Arg Pro Gln Gly Pro Ala Ala Ser Pro Gln Arg Leu Arg Gly
1 5 10 15

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Leu Leu Leu Leu Leu Gln Leu Pro Ala Pro Ser Ser Ala
Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg
Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala
Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro
Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys
Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn
                                                        105
                 95
                                    100
Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu
Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser
                                    130
Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg
Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu
Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln
                170
Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser
Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp
Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp
Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Ile Glu Glu
                230
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Leu Pro Lys

<210> 353

<211> 480

<212> DNA

<213> Homo sapiens

<400> 353

gttaaccage geagteetee gtgegteeeg eeegeegetg eeeteactee 50 eggeeaggat ggeateetgt etggeeetge geatggeget getgetggte 100

teegggtte tggeeetge ggtgeteaca gacgatgtte cacaggagee 150 cgtgeecacg etgtggaacg ageeggeega getgeegteg ggagaaggee 200 cegtggagag caccageece ggeegggage eegtggacae eggteeceea 250 geeceeaceg tegegeeagg accegaggae ageaeeggee aggagegget 300 ggaeeaggge ggegggtege tggggeeegg egetategeg geeategtga 350 tegeegeeet getggeeace tgegtggtge tggegetegt ggtegtege 400 etgagaaagt tttetgeete etgaagegaa taaaggggee gegeeeggee 450 geggegegae teggeaaaaa aaaaaaaaa 480

<210> 354

<211> 121

<212> PRT

<213> Homo sapiens

<400> 354

Met Ala Ser Cys Leu Ala Leu Arg Met Ala Leu Leu Leu Val Ser 1 5 10 15

Gly Val Leu Ala Pro Ala Val Leu Thr Asp Asp Val Pro Gln Glu 20 25 30

Pro Val Pro Thr Leu Trp Asn Glu Pro Ala Glu Leu Pro Ser Gly 35 40 45

Glu Gly Pro Val Glu Ser Thr Ser Pro Gly Arg Glu Pro Val Asp
50 55 60

Thr Gly Pro Pro Ala Pro Thr Val Ala Pro Gly Pro Glu Asp Ser 65 70 75

Gly Ala Ile Ala Ala Ile Val Ile Ala Ala Leu Leu Ala Thr Cys 95 100 105

Val Val Leu Ala Leu Val Val Val Ala Leu Arg Lys Phe Ser Ala 110 115 120

Ser

<210> 355

<211> 2134

<212> DNA

<213> Homo sapiens

<400> 355

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gtgcctgacg gcggcgctgg cccacggctg tctgcactgc cacagcaact 150 tctccaagaa gttctccttc taccgccacc atgtgaactt caagtcctgg 200 tgggtgggcg acatccccgt gtcaggggcg ctgctcaccg actggagcga 250 cgacacgatg aaggagctgc acctggccat ccccgccaag atcacccggg 300 agaagctgga ccaagtggcg acagcagtgt accagatgat ggatcagctg 350 taccagggga agatgtactt ccccgggtat ttccccaacg agctgcgaaa 400 catcttccgg gagcaggtgc acctcatcca gaacgccatc atcgaaaggc 450 acctggcacc aggcagctgg ggaggaggc agctctccag ggagggaccc 500 agoctagoac otgaaggato aatgocatoa occogogggg acotoccota 550 agtagecece agaggegetg ggagtgttge cacegecete eeetgaagtt 600 tgctccatct cacgctgggg gtcaacctgg ggaccccttc cctccgggcc 650 atggacacac atacatgaaa accaggeege ategaetgte ageaeegetg 700 tggcatcttc cagtacgaga ccatctcctg caacaactgc acagactcgc 750 acgtcgcctg ctttggctat aactgcgagt agggctcagg catcacaccc 800 accegtgeea gggeeetact gteeetgggg teeeaggete teettggagg 850 gggeteeeeg eetteeaeet ggetgteate gggtagggeg gggeegtggg 900 ttcaggggcg caccacttcc aagcctgtgt cccacaggtc ctcggcgcag 950 tggaagtcag ctgtccaggg cctcctgaac tacataaata actggcacaa 1000 gtaagtcccc tcctcaaacc aacacaggca gtgtgtgtat gtgagcacct 1050 cgtgggtgag tatgtgtggg gcacaggctg gctccctcag ctcccacgtc 1100 ctagaggggc tcccgaggag gtggaacctc aacccagctc tgcgcaggag 1150 geggetgeag teettttete eetcaaaggt eteegaeeet eagetggagg 1200 cgggcatctt tcctaaaggg tccccatagg gtctggttcc accccatccc 1250 aggtctgtgg tcagagcctg ggagggttcc ctacgatggt taggggtgcc 1300 ccatggaggg gctgactgcc ccacattgcc tttcagacag gacacgagca 1350 tgaggtaagg ccgccctgac ctggacttca gggggagggg gtaaagggag 1400 agaggagggg ggctaggggg tcctctagat cagtgggggc actgcaggtg 1450 gggctctccc tatacctggg acacctgctg gatgtcacct ctgcaaccac 1500 acccatgtgg tggtttcatg aacagaccac gctcctctgc cttctcctgg 1550

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<210> 356

<211> 157

<212> PRT

<213> Homo sapiens

<400> 356

Met Ala Leu Leu Cys Leu Val Cys Leu Thr Ala Ala Leu Ala 1 5 10 15

His Gly Cys Leu His Cys His Ser Asn Phe Ser Lys Lys Phe Ser 20 25 30

Phe Tyr Arg His His Val Asn Phe Lys Ser Trp Trp Val Gly Asp 35 40 45

Ile Pro Val Ser Gly Ala Leu Leu Thr Asp Trp Ser Asp Asp Thr 50 60

Met Lys Glu Leu His Leu Ala Ile Pro Ala Lys Ile Thr Arg Glu
65 70 75

Lys Leu Asp Gln Val Ala Thr Ala Val Tyr Gln Met Met Asp Gln 80 85 90

Leu Tyr Gln Gly Lys Met Tyr Phe Pro Gly Tyr Phe Pro Asn Glu 95 100 105

Leu Arg Asn Ile Phe Arg Glu Gln Val His Leu Ile Gln Asn Ala 110 115 120

Ile Ile Glu Arg His Leu Ala Pro Gly Ser Trp Gly Gly Gln 125

Leu Ser Arg Glu Gly Pro Ser Leu Ala Pro Glu Gly Ser Met Pro

145

Ser Pro Arg Gly Asp Leu Pro 155

<210> 357

<211> 1536

<212> DNA

<213> Homo sapiens

<400> 357

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<210> 358

<211> 273

<212> PRT

<213> Homo sapiens

<400> 358

Met Glu Ala Ala Pro Ser Arg Phe Met Phe Leu Leu Phe Leu Leu 1 5 10 15

Thr Cys Glu Leu Ala Ala Glu Val Ala Ala Glu Val Glu Lys Ser $20 \\ 25 \\ 30$

Ser Asp Gly Pro Gly Ala Ala Gln Glu Pro Thr Trp Leu Thr Asp 35 40 45

Val Pro Ala Ala Met Glu Phe Ile Ala Ala Thr Glu Val Ala Val 50 55 60

Ile Gly Phe Phe Gln Asp Leu Glu Ile Pro Ala Val Pro Ile Leu
65 70 75

His Ser Met Val Gln Lys Phe Pro Gly Val Ser Phe Gly Ile Ser 80 85 90

Thr Asp Ser Glu Val Leu Thr His Tyr Asn Ile Thr Gly Asn Thr 95 100 105

Ile Cys Leu Phe Arg Leu Val Asp Asn Glu Gln Leu Asn Leu Glu
110 115 120

Asp Glu Asp Ile Glu Ser Ile Asp Ala Thr Lys Leu Ser Arg Phe 125 130 135

Ile Glu Ile Asn Ser Leu His Met Val Thr Glu Tyr Asn Pro Val 140 145 150

Thr Val Ile Gly Leu Phe Asn Ser Val Ile Gln Ile His Leu Leu 155 160 165

Leu Ile Met Asn Lys Ala Ser Pro Glu Tyr Glu Glu Asn Met His
170 175 180

Arg Tyr Gln Lys Ala Ala Lys Leu Phe Gln Gly Lys Ile Leu Phe 185 190 195

<210> 362

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Ile Leu Val Asp Ser Gly Met Lys Glu Asn Gly Lys Val Ile Ser
 Phe Phe Lys Leu Lys Glu Ser Gln Leu Pro Ala Leu Ala Ile Tyr
                 215
 Gln Thr Leu Asp Asp Glu Trp Asp Thr Leu Pro Thr Ala Glu Val
                                      235
                 230
 Ser Val Glu His Val Gln Asn Phe Cys Asp Gly Phe Leu Ser Gly
Lys Leu Leu Lys Glu Asn Arg Glu Ser Glu Gly Lys Thr Pro Lys
Val Glu Leu
<210> 359
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 359
ccagcagtgc ccatactcca tagc 24
<210> 360
<211> 20
<212> DNA
<213> Artificial
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<221> Artificial Sequence
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<223> Synthetic construct.
<400> 360
tgacgagtgg gatacactgc 20
<210> 361
<211> 24
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<223> Synthetic construct.
<400> 361
gctctacgga aacttctgct gtgg 24
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<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 362
attcccaggc gtgtcatttg ggatcagcac tgattctgag gttctgacac 50
<210> 363
<211> 1777
<212> DNA
<213> Homo sapiens
<400> 363
ggagagccgc ggctgggacc ggagtgggga gcgcggcgtg gaggtgccac 50
ccggcgcggg tggcggagag atcagaagcc tcttccccaa gccgagccaa 100
cctcagcggg gacccgggct cagggacgcg gcggcggcgg cggcgactgc 150
agtggctgga cgatggcagc gtccgccgga gccggggcgg tgattgcagc 200
cccagacage eggegetgge tgtggteggt getggeggeg gegettggge 250
tcttgacagc tggagtatca gccttggaag tatatacgcc aaaagaaatc 300
ttcgtggcaa atggtacaca agggaagctg acctgcaagt tcaagtctac 350
tagtacgact ggcgggttga cctcagtctc ctggagcttc cagccagagg 400
gggccgacac tactgtgtcg tttttccact actcccaagg gcaagtgtac 450
cttgggaatt atccaccatt taaagacaga atcagctggg ctggagacct 500
tgacaagaaa gatgcatcaa tcaacataga aaatatgcag tttatacaca 550
atggcaccta tatctgtgat gtcaaaaacc ctcctgacat cgttgtccag 600
cctggacaca ttaggctcta tgtcgtagaa aaagagaatt tgcctgtgtt 650
tccagtttgg gtagtggtgg gcatagttac tgctgtggtc ctaggtctca 700
ctctgctcat cagcatgatt ctggctgtcc tctatagaag gaaaaactct 750
aaacgggatt acactggctg cagtacatca gagagtttgt caccagttaa 800
gcaggctcct cggaagtccc cctccgacac tgagggtctt gtaaagagtc 850
tgccttctgg atctcaccag ggcccagtca tatatgcaca gttagaccac 900
tccggcggac atcacagtga caagattaac aagtcagagt ctgtggtgta 950
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tgcggatatc cgaaagaatt aagagaatac ctagaacata tcctcagcaa 1000

gaaacaaaac caaactggac tctcgtgcag aaaatgtagc ccattaccac 1050 atgtagcctt ggagacccag gcaaggacaa gtacacgtgt actcacagag 1100 ggagagaaag atgtgtacaa aggatatgta taaatattct atttagtcat 1150 cctgatatga ggagccagtg ttgcatgatg aaaagatggt atgattctac 1200 atatgtaccc attgtcttgc tgtttttgta ctttctttc aggtcattta 1250 caattgggag atttcagaaa cattcctttc accatcattt agaaatggtt 1300 tgccttaatg gagacaatag cagatcctgt agtatttcca gtagacatgg 1350 ccttttaatc taagggctta agactgatta gtcttagcat ttactgtagt 1400 tggaggatgg agatgctatg atggaagcat acccagggtg gcctttagca 1450 cagtatcagt accatttatt tgtctgccgc ttttaaaaaaa tacccattgg 1500 ctatgccact tgaaaacaat ttgagaagtt tttttgaagt ttttctcact 1550 aaaatatggg gcaattgtta gccttacatg ttgtgtagac ttactttaag 1600 tttgcaccct tgaaatgtgt catatcaatt tctggattca taatagcaag 1650 attagcaaag gataaatgcc gaaggtcact tcattctgga cacagttgga 1700 tcaatactga ttaagtagaa aatccaagct ttgcttgaga acttttgtaa 1750 cgtggagagt aaaaagtatc ggtttta 1777

<210> 364

<211> 269

<212> PRT

<213> Homo sapiens

<400> 364

Met Ala Ala Ser Ala Gly Ala Gly Ala Val Ile Ala Ala Pro Asp 1 5 10

Ser Arg Arg Trp Leu Trp Ser Val Leu Ala Ala Ala Leu Gly Leu 20 25 30

Leu Thr Ala Gly Val Ser Ala Leu Glu Val Tyr Thr Pro Lys Glu
35 40 45

Ile Phe Val Ala Asn Gly Thr Gln Gly Lys Leu Thr Cys Lys Phe 50 55 60

Lys Ser Thr Ser Thr Thr Gly Gly Leu Thr Ser Val Ser Trp Ser 65 70 75

Phe Gln Pro Glu Gly Ala Asp Thr Thr Val Ser Phe Phe His Tyr 80 85 90

Ser Gln Gly Gln Val Tyr Leu Gly Asn Tyr Pro Pro Phe Lys Asp 95 100 105

```
Arg Ile Ser Trp Ala Gly Asp Leu Asp Lys Lys Asp Ala Ser Ile
Asn Ile Glu Asn Met Gln Phe Ile His Asn Gly Thr Tyr Ile Cys
                                     130
                125
Asp Val Lys Asn Pro Pro Asp Ile Val Val Gln Pro Gly His Ile
                140
                                    145
Arg Leu Tyr Val Val Glu Lys Glu Asn Leu Pro Val Phe Pro Val
Trp Val Val Gly Ile Val Thr Ala Val Val Leu Gly Leu Thr
                170
Leu Leu Ile Ser Met Ile Leu Ala Val Leu Tyr Arg Arg Lys Asn
                                                         195
                185
Ser Lys Arg Asp Tyr Thr Gly Cys Ser Thr Ser Glu Ser Leu Ser
                200
                                     205
                                                         210
Pro Val Lys Gln Ala Pro Arg Lys Ser Pro Ser Asp Thr Glu Gly
                215
                                     220
                                                         225
Leu Val Lys Ser Leu Pro Ser Gly Ser His Gln Gly Pro Val Ile
                230
                                     235
Tyr Ala Gln Leu Asp His Ser Gly Gly His His Ser Asp Lys Ile
                245
                                     250
                                                         255
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Asn Lys Ser Glu Ser Val Val Tyr Ala Asp Ile Arg Lys Asn

<210> 365

<211> 1321

<212> DNA

<213> Homo sapiens

<400> 365

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cgaattgcta gcatcagcaa aagtctcacc atggttgctc ttgccaaatt 550 gtgggaagca gggaaactgg atcttgatat tccagtacaa cattatgttc 600 ccgaattccc agaaaaagaa tatgaaggtg aaaaggtttc tgtcacaaca 650 agattactga tttcccattt aagtggaatt cgtcattatg aaaaggacat 700 aaaaaaqqtq aaaqaaqaqa aaqcttataa aqccttqaaq atqatqaaaq 750 agaatgttgc atttgagcaa gaaaaagaag gcaaaagtaa tgaaaagaat 800 gattttacta aatttaaaac agagcaggag aatgaagcca aatgccggaa 850 ttcaaaacct ggcaagaaaa agaatgattt tgaacaaggc gaattatatt 900 tgagagaaaa gtttgaaaat tcaattgaat ccctaagatt atttaaaaat 950 gatcctttgt tcttcaaacc tggtagtcag tttttgtatt caacttttgg 1000 ctatacccta ctggcagcca tagtagagag agcttcagga tgtaaatatt 1050 tggactatat gcagaaaata ttccatgact tggatatgct gacgactgtg 1100 caggaagaaa acgagccagt gatttacaat agagcaaggt aaatgaatac 1150 cttctgctgt gtctagctat atcgcatctt aacactattt tattaattaa 1200 aagtcaaatt ttctttgttt ccattccaaa atcaacctgc cacattttgg 1250 gagcttttct acatgtctgt tttctcatct gtaaagtgaa ggaagtaaaa 1300 catgtttata aagtaaaaaa a 1321

<210> 366

<211> 373

<212> PRT

<213> Homo sapiens

<400> 366

Met Tyr Arg Leu Leu Ser Ala Val Thr Ala Arg Ala Ala Pro 1 5 10 15

Gly Gly Leu Ala Ser Ser Cys Gly Arg Arg Gly Val His Gln Arg 20 25 30

Ala Gly Leu Pro Pro Leu Gly His Gly Trp Val Gly Gly Leu Gly 35 40 45

Leu Gly Leu Gly Leu Gly Val Lys Leu Ala Gly Gly Leu
50 55 60

Arg Gly Ala Ala Pro Ala Gln Ser Pro Ala Ala Pro Asp Pro Glu
65 70 75

Ala Ser Pro Leu Ala Glu Pro Pro Gln Glu Gln Ser Leu Ala Pro 80 85 90

Trp Ser Pro Gln Thr Pro Ala Pro Pro Cys Ser Arg Cys Phe Ala Arg Ala Ile Glu Ser Ser Arg Asp Leu Leu His Arg Ile Lys Asp 110 115 Glu Val Gly Ala Pro Gly Ile Val Val Gly Val Ser Val Asp Gly Lys Glu Val Trp Ser Glu Gly Leu Gly Tyr Ala Asp Val Glu Asn Arg Val Pro Cys Lys Pro Glu Thr Val Met Arg Ile Ala Ser Ile Ser Lys Ser Leu Thr Met Val Ala Leu Ala Lys Leu Trp Glu Ala 170 175 Gly Lys Leu Asp Leu Asp Ile Pro Val Gln His Tyr Val Pro Glu 185 Phe Pro Glu Lys Glu Tyr Glu Gly Glu Lys Val Ser Val Thr Thr Arg Leu Leu Ile Ser His Leu Ser Gly Ile Arg His Tyr Glu Lys Asp Ile Lys Lys Val Lys Glu Lys Ala Tyr Lys Ala Leu Lys Met Met Lys Glu Asn Val Ala Phe Glu Gln Glu Lys Glu Gly Lys Ser Asn Glu Lys Asn Asp Phe Thr Lys Phe Lys Thr Glu Glu Asn Glu Ala Lys Cys Arg Asn Ser Lys Pro Gly Lys Lys Lys Asn Asp Phe Glu Gln Gly Glu Leu Tyr Leu Arg Glu Lys Phe Glu Asn Ser Ile Glu Ser Leu Arg Leu Phe Lys Asn Asp Pro Leu Phe Phe 315 Lys Pro Gly Ser Gln Phe Leu Tyr Ser Thr Phe Gly Tyr Thr Leu Leu Ala Ala Ile Val Glu Arg Ala Ser Gly Cys Lys Tyr Leu Asp 335 Tyr Met Gln Lys Ile Phe His Asp Leu Asp Met Leu Thr Thr Val Gln Glu Glu Asn Glu Pro Val Ile Tyr Asn Arg Ala Arg 365

<210> 367

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The state of the s
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<211> 30
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-30
<223> Synthetic construct.
<400> 367
 tggaaaagaa gtctggtcag aaggtttagg 30
<210> 368
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.
<400> 368
catttggctt cattctcctg ctctg 25
<210> 369
<211> 28
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-28
<223> Synthetic construct.
<400> 369
aaaacctcag aacaactcat tttgcacc 28
<210> 370
<211> 41
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-41
<223> Synthetic construct.
<400> 370
gtctcaccat ggttgctctt gccaaattgt gggaagcagg g 41
<210> 371
<211> 1150
<212> DNA
<213> Homo sapiens
<400> 371
 gtgacactat agaagagcta tgacgtcgca tgcacgcgta cgtaagctcg 50
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qaattcqqct cqaqqctqqt qqqaaqaaqc cqaqatqqcq qcaqccaqcq 100
ctggggcaac ccgctgctc ctgctcttgc tgatggcggt agcagcgccc 150
agtcgagccc ggggcagcgg ctgccgggcc gggactggtg cgcgaggggc 200
tggggcggaa ggtcgagagg gcgaggcctg tggcacggtg gggctgctgc 250
tggagcactc atttgagatc gatgacagtg ccaacttccg gaagcggggc 300
tcactgctct ggaaccagca ggatggtacc ttgtccctgt cacageggca 350
gctcagcgag gaggagcggg gccgactccg ggatgtggca gccctgaatg 400
gcctgtaccg ggtccggatc ccaaggcgac ccggggccct ggatggcctg 450
gaagetggtg getatgtete eteetttgte eetgegtget eeetggtgga 500
gtcgcacctg tcggaccagc tgaccctgca cgtggatgtg gccggcaacg 550
tggtgggcgt gtcggtggtg acgcaccccg ggggctgccg gggccatgag 600
gtggaggacq tqqacctgga gctgttcaac acctcggtgc agctgcagcc 650
qcccaccaca qccccaqqcc ctqaqacqqc ggccttcatt gagcgcctgg 700
agatggaaca ggcccagaag gccaagaacc cccaggagca gaagtccttc 750
ttcgccaaat actggatgta catcattccc gtcgtcctgt tcctcatgat 800
qtcaqqaqcq ccaqacaccq qqqqccaqqq tqqqqqtqqq qqtqggggtg 850
gtggtggggg tagtggcctt tgctgtgtgc caccctccct gtaagtctat 900
ttaaaaacat cgacgataca ttgaaatgtg tgaacgtttt gaaaagctac 950
agettecage agecaaaage aactgttgtt ttggcaagae ggteetgatg 1000
tacaagcttg attgaaattc actgctcact tgatacgtta ttcagaaacc 1050
caaggaatgg ctgtccccat cctcatgtgg ctgtgtggag ctcagctgtg 1100
ttqtqtqqca qtttattaaa ctqtccccca gatcgacacq caaaaaaaaa 1150
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Arg Ala Gly Thr Gly Ala Arg Gly Ala Gly Ala Glu Gly Arg Glu
35 40 45

<210> 372

<211> 269

<212> PRT

<213> Homo sapiens

<400> 372

Met Ala Ala Ala Ser Ala Gly Ala Thr Arg Leu Leu Leu Leu 1 5 10 15

Leu Met Ala Val Ala Ala Pro Ser Arg Ala Arg Gly Ser Gly Cys $20 \\ 25 \\ 30$

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Gly Glu Ala Cys Gly Thr Val Gly Leu Leu Leu Glu His Ser Phe
                 50
Glu Ile Asp Asp Ser Ala Asn Phe Arg Lys Arg Gly Ser Leu Leu
Trp Asn Gln Gln Asp Gly Thr Leu Ser Leu Ser Gln Arg Gln Leu
Ser Glu Glu Glu Arg Gly Arg Leu Arg Asp Val Ala Ala Leu Asn
Gly Leu Tyr Arg Val Arg Ile Pro Arg Arg Pro Gly Ala Leu Asp
Gly Leu Glu Ala Gly Gly Tyr Val Ser Ser Phe Val Pro Ala Cys
                125
Ser Leu Val Glu Ser His Leu Ser Asp Gln Leu Thr Leu His Val
                140
Asp Val Ala Gly Asn Val Val Gly Val Ser Val Val Thr His Pro
                                                         165
                                    160
                155
Gly Gly Cys Arg Gly His Glu Val Glu Asp Val Asp Leu Glu Leu
                170
                                    175
Phe Asn Thr Ser Val Gln Leu Gln Pro Pro Thr Thr Ala Pro Gly
                                                         195
                                    190
Pro Glu Thr Ala Ala Phe Ile Glu Arg Leu Glu Met Glu Gln Ala
                                    205
Gln Lys Ala Lys Asn Pro Gln Glu Gln Lys Ser Phe Phe Ala Lys
                                    220
                                                         225
Tyr Trp Met Tyr Ile Ile Pro Val Val Leu Phe Leu Met Met Ser
                230
                                    235
Gly Ala Pro Asp Thr Gly Gly Gln Gly Gly Gly Gly Gly Gly
                                                         255
Gly Gly Gly Ser Gly Leu Cys Cys Val Pro Pro Ser Leu
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<210> 373

<211> 1706

<212> DNA

<213> Homo sapiens

<400> 373

ggagggtgc tggaacccga gccggagccg gagccacagc ggggagggtg 50
gcctggcggc ctggagccgg acgtgtccgg ggcgtccccg cagaccgggg 100
cagcaggtcg tccgggggcc caccatgctg gtgactgcct accttgcttt 150
tgtaggcctc ctggcctcct gcctggggct ggaactgtca agatgccggg 200

ctaaaccccc tggaagggcc tgcagcaatc cctccttcct tcggtttcaa 250 ctggacttct atcaggtcta cttcctggcc ctggcagctg attggcttca 300 ggccccctac ctctataaac tctaccagca ttactacttc ctggaaggtc 350 aaattgccat cctctatgtc tgtggccttg cctctacagt cctctttggc 400 ctagtggcct cetecettgt ggattggctg ggtcgcaaga attettgtgt 450 cctcttctcc ctgacttact cactatgctg cttaaccaaa ctctctcaag 500 actactttgt gctgctagtg gggcgagcac ttggtgggct gtccacagcc 550 ctgctcttct cagccttcga ggcctggtat atccatgagc acgtggaacg 600 gcatgacttc cctgctgagt ggatcccagc tacctttgct cgagctgcct 650 tctggaacca tgtgctggct gtagtggcag gtgtggcagc tgaggctgta 700 gccagctgga tagggctggg gcctgtagcg ccctttgtgg ctgccatccc 750 teteetgget etggeaggg cettggeeet tegaaactgg ggggagaact 800 atgaccggca gcgtgccttc tcaaggacct gtgctggagg cctgcgctgc 850 ctcctgtcgg accgccgcqt gctgctgctg ggcaccatac aagctctatt 900 tgagagtgtc atcttcatct ttgtcttcct ctggacacct gtgctggacc 950 cacacggggc ccctctgggc attatcttct ccagcttcat ggcagccagc 1000 ctgcttggct cttccctgta ccgtatcgcc acctccaaga ggtaccacct 1050 tcagcccatg cacctgctgt cccttgctgt gctcatcgtc gtcttctctc 1100 tcttcatgtt gactttctct accagcccag gccaggagag tccggtggag 1150 tccttcatag cctttctact tattgagttg gcttgtggat tatactttcc 1200 cagcatgagc ttcctacgga gaaaggtgat ccctgagaca gagcaggctg 1250 gtgtactcaa ctggttccgg gtacctctgc actcactggc ttgcctaggg 1300 ctccttgtcc tccatgacag tgatcgaaaa acaggcactc ggaatatgtt 1350 cagcatttgc tctgctgtca tggtgatggc tctgctggca gtggtgggac 1400 tcttcaccgt ggtaaggcat gatgctgagc tgcgggtacc ttcacctact 1450 gaggageeet atgeeeetga getgtaacee cacteeagga caagataget 1500 gggacagact cttgaattcc agctatccgg gattgtacag atctctctgt 1550 gactgacttt gtgactgtcc tgtggtttct cctgccattg ctttgtgttt 1600 gggaggacat gatggggtg atggactgga aagaaggtgc caaaagttcc 1650

ctctgtgtta ctcccattta gaaaataaac acttttaaat gatcaaaaaa 1700 aaaaaa 1706

<210> 374

<211> 450

<212> PRT

<213> Homo sapiens

<400> 374

Met Leu Val Thr Ala Tyr Leu Ala Phe Val Gly Leu Leu Ala Ser 1 10 15

Cys Leu Gly Leu Glu Leu Ser Arg Cys Arg Ala Lys Pro Pro Gly
20 25 30

Arg Ala Cys Ser Asn Pro Ser Phe Leu Arg Phe Gln Leu Asp Phe
35 40 45

Tyr Gln Val Tyr Phe Leu Ala Leu Ala Ala Asp Trp Leu Gln Ala 50 55 60

Pro Tyr Leu Tyr Lys Leu Tyr Gln His Tyr Tyr Phe Leu Glu Gly
65 70 75

Gln Ile Ala Ile Leu Tyr Val Cys Gly Leu Ala Ser Thr Val Leu 80 85 90

Phe Gly Leu Val Ala Ser Ser Leu Val Asp Trp Leu Gly Arg Lys 95 100 105

Asn Ser Cys Val Leu Phe Ser Leu Thr Tyr Ser Leu Cys Cys Leu 110 115 120

Thr Lys Leu Ser Gln Asp Tyr Phe Val Leu Leu Val Gly Arg Ala 125 130 135

Leu Gly Gly Leu Ser Thr Ala Leu Leu Phe Ser Ala Phe Glu Ala 140 145 150

Trp Tyr Ile His Glu His Val Glu Arg His Asp Phe Pro Ala Glu
155 160 165

Trp Ile Pro Ala Thr Phe Ala Arg Ala Ala Phe Trp Asn His Val 170 175 180

Leu Ala Val Val Ala Gly Val Ala Ala Glu Ala Val Ala Ser Trp
185 190 195

Ile Gly Leu Gly Pro Val Ala Pro Phe Val Ala Ala Ile Pro Leu 200 205 210

Leu Ala Leu Ala Gly Ala Leu Ala Leu Arg Asn Trp Gly Glu Asn 215 220 225

Tyr Asp Arg Gln Arg Ala Phe Ser Arg Thr Cys Ala Gly Gly Leu 230 235 240

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Arg Cys Leu Leu Ser Asp Arg Arg Val Leu Leu Gly Thr Ile
Gln Ala Leu Phe Glu Ser Val Ile Phe Ile Phe Val Phe Leu Trp
                                    265
                260
Thr Pro Val Leu Asp Pro His Gly Ala Pro Leu Gly Ile Ile Phe
                275
Ser Ser Phe Met Ala Ala Ser Leu Leu Gly Ser Ser Leu Tyr Arg
Ile Ala Thr Ser Lys Arg Tyr His Leu Gln Pro Met His Leu Leu
Ser Leu Ala Val Leu Ile Val Val Phe Ser Leu Phe Met Leu Thr
                320
                                    325
Phe Ser Thr Ser Pro Gly Gln Glu Ser Pro Val Glu Ser Phe Ile
                                    340
Ala Phe Leu Leu Ile Glu Leu Ala Cys Gly Leu Tyr Phe Pro Ser
                                                         360
                350
                                    355
Met Ser Phe Leu Arg Arg Lys Val Ile Pro Glu Thr Glu Gln Ala
                                    370
Gly Val Leu Asn Trp Phe Arg Val Pro Leu His Ser Leu Ala Cys
                380
                                    385
                                                         390
Leu Gly Leu Leu Val Leu His Asp Ser Asp Arg Lys Thr Gly Thr
Arg Asn Met Phe Ser Ile Cys Ser Ala Val Met Val Met Ala Leu
                                    415
Leu Ala Val Val Gly Leu Phe Thr Val Val Arg His Asp Ala Glu
                                    430
Leu Arg Val Pro Ser Pro Thr Glu Glu Pro Tyr Ala Pro Glu Leu
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<210> 375

<211> 1098

<212> DNA

<213> Artificial

<400> 375

gcgacgcgcg gcggggcggc gagaggaaac gcggcgccgg gccgggcccg 50 gccctggaga tggtccccgg cgccgcgggc tggtgttgtc tcgtgctctg 100 gctccccgcg tgcgtcgcgg cccacggctt ccgtatccat gattatttgt 150 actttcaagt gctgagtcct ggggacattc gatacatctt cacagccaca 200 cctgccaagg actttggtgg tatctttcac acaaggtatg agcagattca 250

cettgteece getgaacete cagaggeetg eggggaacte ageaacggtt 300 tetteateca ggaccagatt getetggtgg agagggggg etgeteette 350 ctctccaaga ctcggqtggt ccaggagcac ggcgggcggg cggtgatcat 400 ctctgacaac gcagttgaca atgacagctt ctacgtggag atgatccagg 450 acagtaccca gcqcacagct gacatccccg ccctcttcct gctcggccga 500 qacqqctaca tqatccqccq ctctctqqaa caqcatqqqc tqccatqqqc 550 catcatttcc atcccaqtca atgtcaccaq catccccacc tttgagctgc 600 tgcaaccgcc ctggaccttc tggtagaaga gtttgtccca cattccagcc 650 ataagtgact ctgagctggg aaggggaaac ccaggaattt tgctacttgg 700 aatttggaga tagcatctgg ggacaagtgg agccaggtag aggaaaaggg 750 cccagggccc ccaagggtgt ctcatgctac aagaagaggc aagagacagg 850 ccccagggct tctggctaga acccgaaaca aaaggagctg aaggcaggtg 900 gcctgagagc catctgtgac ctgtcacact cacctggctc cagcctcccc 950 tacccagggt ctctgcacag tgaccttcac agcagttgtt ggagtggttt 1000 aaagagctgg tgtttgggga ctcaataaac cctcactgac tttttagcaa 1050 taaagcttct catcagggtt gcaaaaaaaa aaaaaaaaa aaaaaaaa 1098

<210> 376

<211> 188

<212> PRT

<213> Homo sapiens

<400> 376

Met Val Pro Gly Ala Ala Gly Trp Cys Cys Leu Val Leu Trp Leu 1 5 10

Pro Ala Cys Val Ala Ala His Gly Phe Arg Ile His Asp Tyr Leu $20 \hspace{1cm} 25 \hspace{1cm} 30$

Tyr Phe Gln Val Leu Ser Pro Gly Asp Ile Arg Tyr Ile Phe Thr 35 40 45

Ala Thr Pro Ala Lys Asp Phe Gly Gly Ile Phe His Thr Arg Tyr 50 55 60

Glu Gln Ile His Leu Val Pro Ala Glu Pro Pro Glu Ala Cys Gly
65 70 75

Glu Leu Ser Asn Gly Phe Phe Ile Gln Asp Gln Ile Ala Leu Val $80\,$ $85\,$ 90

```
Glu Arg Gly Gly Cys Ser Phe Leu Ser Lys Thr Arg Val Val Gln 105

Glu His Gly Gly Arg Ala Val Ile Ile Ser Asp Asn Ala Val Asp 120

Asn Asp Ser Phe Tyr Val Glu Met Ile Gln Asp Ser Thr Gln Arg 135

Thr Ala Asp Ile Pro Ala Leu Phe Leu Leu Gly Arg Asp Gly Tyr 140

Met Ile Arg Arg Ser Leu Glu Gln His Gly Leu Pro Trp Ala Ile 165

Ile Ser Ile Pro Val Asn Val Thr Ser Ile Pro Thr Phe Glu Leu 180
```

Leu Gln Pro Pro Trp Thr Phe Trp 185

- <210> 377
- <211> 496
- <212> DNA
- <213> Artificial
- <220>
- <221> unsure
- <222> 396
- <223> unknown base
- <400> 377
- <210> 378
- <211> 116
- <212> PRT
- <213> Homo sapiens
- <400> 378

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Met Glu Leu Ala Leu Leu Cys Gly Leu Val Val Met Ala Gly Val
Ile Pro Ile Gln Gly Gly Ile Leu Asn Leu Asn Lys Met Val Lys
Gln Val Thr Gly Lys Met Pro Ile Leu Ser Tyr Trp Pro Tyr Gly
Cys His Cys Gly Leu Gly Gly Arg Gly Gln Pro Lys Asp Ala Thr
Asp Trp Cys Cys Gln Thr His Asp Cys Cys Tyr Asp His Leu Lys
Thr Gln Gly Cys Gly Ile Tyr Lys Asp Asn Asn Lys Ser Ser Ile
His Cys Met Asp Leu Ser Gln Arg Tyr Cys Leu Met Ala Val Phe
                                      100
Asn Val Ile Tyr Leu Glu Asn Glu Asp Ser Glu
                 110
                                     115
<210> 379
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 379
ctgcctccac tgctctgtgc tggg 24
<210> 380
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 380
cagagcagtg gatgttcccc tggg 24
<210> 381
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
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<210> 383 <211> 178 <212> PRT

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- <213> Homo sapiens

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ggtatggggc catccgagct gaggccatct gtgtggtggt ggctgatggt 700

actggagtaa ctgagtcggg acgctgaatc tgaatccacc aataaataaa 750

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Gly Leu Arg Val Ser Val Gly Leu Leu Leu Leu Val Lys Ser Val Gln 60

Val Lys Leu Gly Asp Ser Trp Asp Val Lys Leu Gly Ala Leu Gly 75

Gly Asn Thr Gln Glu Val Thr Leu Gln Pro 85 Gly Glu Tyr Ile Thr 90

Lys Val Phe Val Ala Phe Gln Ala Phe Leu Arg Gly Met Val Met 105

Tyr Thr Ser Lys Asp Arg Tyr Phe Tyr Phe Gly Lys Leu Asp Gly 120

Gln Ile Ser Ser Ala Tyr Pro Ser Gln Glu Gly Gln Val Leu Val 135

Gly Ile Tyr Gly Gln Tyr Gln Leu Glu Glu Gly Ile Lys Ser Ile Gly 150

Phe Glu Trp Asn Tyr Pro Leu Glu Glu Glu Pro Thr Thr Glu Pro Pro 165
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Val Asn Leu Thr Tyr Ser Ala Asn Ser Pro Val Gly Arg 170 175

<210> 384

<211> 2379

<212> DNA

<400> 384

<213> Homo sapiens

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acaaaqgatq qqtttcaatq taattaggct actgagcgga tcagctgtag 550

cactggttat agcccccact gtcttactga caatgctttc ttctgccgaa 600

cgaggatgcc ctaagggctg taggtgtgaa ggcaaaatgg tatattgtga 650

atctcagaaa ttacaggaga taccctcaag tatatctgct ggttgcttag 700 gtttgtccct tcgctataac agccttcaaa aacttaagta taatcaattt 750 aaagggctca accagctcac ctggctatac cttgaccata accatatcag 800 caatattgac gaaaatgctt ttaatggaat acgcagactc aaagagctga 850 ttcttagttc caatagaatc tcctattttc ttaacaatac cttcagacct 900 gtgacaaatt tacggaactt ggatctgtcc tataatcagc tgcattctct 950 qqqatctqaa caqtttcqqq qcttqcqqaa gctgctgagt ttacatttac 1000 ggtctaactc cctgagaacc atccctgtgc gaatattcca agactgccgc 1050 aacctggaac ttttggacct gggatataac cggatccgaa gtttagccag 1100 gaatgtettt getggeatga teagaeteaa agaaetteae etggageaea 1150 atcaattttc caaqctcaac ctggcccttt ttccaaggtt ggtcagcctt 1200 cagaaccttt acttgcagtg gaataaaatc agtgtcatag gacagaccat 1250 gtcctggacc tggagctcct tacaaaggct tgatttatca ggcaatgaga 1300 tcgaagettt cagtggaccc agtgttttcc agtgtgtccc gaatctgcag 1350 cgcctcaacc tggattccaa caagctcaca tttattggtc aagagatttt 1400 ggattcttgg atatccctca atgacatcag tcttgctggg aatatatggg 1450 aatgcagcag aaatatttgc tcccttgtaa actggctgaa aagttttaaa 1500 ggtctaaggg agaatacaat tatctgtgcc agtcccaaag agctgcaagg 1550 agtaaatgtg atcgatgcag tgaagaacta cagcatctgt ggcaaaagta 1600 ctacagagag gtttgatctg gccagggctc tcccaaagcc gacgtttaag 1650 cccaagetee ccaggeegaa geatgagage aaaceceett tgeeceegae 1700 ggtgggagcc acagagcccg gcccagagac cgatgctgac gccgagcaca 1750 tctctttcca taaaatcatc gcgggcagcg tggcgctttt cctgtccgtg 1800 ctcgtcatcc tgctggttat ctacgtgtca tggaagcggt accctgcgag 1850 catgaagcag ctgcagcagc gctccctcat gcgaaggcac aggaaaaaga 1900 aaagacagtc cctaaagcaa atgactccca gcacccagga attttatgta 1950 gattataaac ccaccaacac ggagaccagc gagatgctgc tgaatgggac 2000 gggaccctgc acctataaca aatcgggctc cagggagtgt gaggtatgaa 2050 ccattgtgat aaaaagagct cttaaaagct gggaaataag tggtgcttta 2100 ttgaactetg gtgactatea agggaacgeg atgececee teccetteee 2150 tetecetete actttggtgg caagateett cettgteegt tttagtgeat 2200 teataataet ggteatttte eteteataea taateaacee attgaaattt 2250 aaataecaea ateaatgtga agettgaact eeggtttaat ataataecta 2300 ttgtataaga eeetttaetg atteeattaa tgtegeattt gttttaagat 2350 aaaaettett teataggtaa aaaaaaaaa 2379

<210> 385

<211> 513

<212> PRT

<213> Homo sapiens

<400> 385

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Leu Val Ile Ala Pro Thr Val Leu Leu Thr Met Leu Ser Ser Ala 20 25 30

Glu Arg Gly Cys Pro Lys Gly Cys Arg Cys Glu Gly Lys Met Val 35 40 45

Tyr Cys Glu Ser Gln Lys Leu Gln Glu Ile Pro Ser Ser Ile Ser 50 55 60

Ala Gly Cys Leu Gly Leu Ser Leu Arg Tyr Asn Ser Leu Gln Lys 65 70 75

Leu Lys Tyr Asn Gln Phe Lys Gly Leu Asn Gln Leu Thr Trp Leu 80 85 90

Tyr Leu Asp His Asn His Ile Ser Asn Ile Asp Glu Asn Ala Phe 95 100 105

Asn Gly Ile Arg Arg Leu Lys Glu Leu Ile Leu Ser Ser Asn Arg 110 115 120

Ile Ser Tyr Phe Leu Asn Asn Thr Phe Arg Pro Val Thr Asn Leu 125 130 135

Arg Asn Leu Asp Leu Ser Tyr Asn Gln Leu His Ser Leu Gly Ser 140 145 150

Glu Gln Phe Arg Gly Leu Arg Lys Leu Leu Ser Leu His Leu Arg 155 160 165

Ser Asn Ser Leu Arg Thr Ile Pro Val Arg Ile Phe Gln Asp Cys 170 175 180

Arg Asn Leu Glu Leu Leu Asp Leu Gly Tyr Asn Arg Ile Arg Ser 185 190 195

Leu Ala Arg Asn Val Phe Ala Gly Met Ile Arg Leu Lys Glu Leu

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His	Leu	Glu	His	Asn 215	Gln	Phe	Ser	Lys	Leu 220	Asn	Leu	Ala	Leu	Phe 225
Pro	Arg	Leu	Val	Ser 230	Leu	Gln	Asn	Leu	Tyr 235	Leu	Gln	Trp	Asn	Lys 240
Ile	Ser	Val	Ile	Gly 245	Gln	Thr	Met	Ser	Trp 250	Thr	Trp	Ser	Ser	Leu 255
Gln	Arg	Leu	Asp	Leu 260	Ser	Gly	Asn	Glu	Ile 265	Glu	Ala	Phe	Ser	Gly 270
Pro	Ser	Val	Phe	Gln 275	Cys	Val	Pro	Asn	Leu 280	Gln	Arg	Leu	Asn	Leu 285
Asp	Ser	Asn	Lys	Leu 290	Thr	Phe	Ile	Gly	Gln 295	Glu	Ile	Leu	Asp	Ser 300
Trp	Ile	Ser	Leu	Asn 305	Asp	Ile	Ser	Leu	Ala 310	Gly	Asn	Ile	Trp	Glu 315
Cys	Ser	Arg	Asn	Ile 320	Cys	Ser	Leu	Val	Asn 325	Trp	Leu	Lys	Ser	Phe 330
Lys	Gly	Leu	Arg	Glu 335	Asn	Thr	Ile	Ile	Cys 340	Ala	Ser	Pro	Lys	Glu 345
Leu	Gln	Gly	Val	Asn 350	Val	Ile	Asp	Ala	Val 355	Lys	Asn	Tyr	Ser	Ile 360
Cys	Gly	Lys	Ser	Thr 365	Thr	Glu	Arg	Phe	Asp 370	Leu	Ala	Arg	Ala	Leu 375
Pro	Lys	Pro	Thr	Phe 380	Lys	Pro	Lys	Leu	Pro 385	Arg	Pro	Lys	His	Glu 390
Ser	Lys	Pro	Pro	Leu 395	Pro	Pro	Thr	Val	Gly 400	Ala	Thr	Glu	Pro	Gly 405
Pro	Glu	Thr	Asp	Ala 410	Asp	Ala	Glu	His	Ile 415	Ser	Phe	His	Lys	Ile 420
Ile	Ala	Gly	Ser	Val 425	Ala	Leu	Phe	Leu	Ser 430	Val	Leu	Val	Ile	Leu 435
Leu	Val	Ile	Tyr	Val 440	Ser	Trp	Lys	Arg	Tyr 445	Pro	Ala	Ser	Met	Lys 450
Gln	Leu	Gln	Gln	Arg 455	Ser	Leu	Met	Arg	Arg 460	His	Arg	Lys	Lys	Lys 465
Arg	Gln	Ser	Leu	Lys 470	Gln	Met	Thr	Pro	Ser 475	Thr	Gln	Glu	Phe	Tyr 480
Val	Asp	Tyr	Lys	Pro 485	Thr	Asn	Thr	Glu	Thr 490	Ser	Glu	Met	Leu	Leu 495

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<211> 24
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<222> 1-24
<223> Synthetic construct.
<400> 386
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<210> 387
<211> 24
<212> DNA
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<220>
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<222> 1-24
<223> Synthetic construct.
<400> 387
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<210> 388
<211> 48
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-48
<223> Synthetic construct.
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<211> 1449
<212> DNA
<213> Homo sapiens
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 ttgactgtcc tttaaatatg tcaagatcca gacttttcag tgtcacctca 100
 gcgatctcaa cgatagggat cttgtgtttg ccgctattcc agttggtgct 150
 ctcggaccta ccatgcgaag aagatgaaat gtgtgtaaat tataatgacc 200
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Asn Gly Thr Gly Pro Cys Thr Tyr Asn Lys Ser Gly Ser Arg Glu

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<210> 390

<211> 146

<212> PRT

<213> Homo sapiens

<400> 390

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Leu Pro Cys Glu Glu Asp Glu Met Cys Val Asn Tyr Asn Asp Gln
His Pro Asn Gly Trp Tyr Ile Trp Ile Leu Leu Leu Val Leu
Val Ala Ala Leu Leu Cys Gly Ala Val Val Leu Cys Leu Gln Cys
Trp Leu Arg Arg Pro Arg Ile Asp Ser His Arg Arg Thr Met Ala
Val Phe Ala Val Gly Asp Leu Asp Ser Ile Tyr Gly Thr Glu Ala
                  95
Ala Val Ser Pro Thr Val Gly Ile His Leu Gln Thr Gln Thr Pro
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Asp Leu Tyr Pro Val Pro Ala Pro Cys Phe Gly Pro Leu Gly Ser
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Pro Pro Pro Tyr Glu Glu Ile Val Lys Thr Thr
<210> 391
<211> 26
<212> DNA
<213> Artificial
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<221> Artificial Sequence
<222> 1-26
<223> Synthetic construct.
<400> 391
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<211> 23
<212> DNA
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<222> 1-23
<223> Synthetic construct.
<400> 392
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<211> 47
<212> DNA
<213> Artificial
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<210> 395

<211> 140

<212> PRT

<213> Homo sapiens

<400> 395

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His Tyr Thr Phe Gin Gin Pro Arg His Gin Ser Ser Vai Lys Leu
35 40 45

Arg Glu Gln Ile Leu Asp Leu Ser Lys Arg Tyr Val Lys Ala Leu 50 55 60

Ala Glu Glu Asn Lys Asn Thr Val Asp Val Glu Asn Gly Ala Ser 65 70 75

Met Ala Gly Tyr Ala Asp Leu Lys Arg Thr Ile Ala Val Leu Leu 80 85 90

Asp Asp Ile Leu Gln Arg Leu Val Lys Leu Glu Asn Lys Val Asp 95 100 105

Tyr Ile Val Val Asn Gly Ser Ala Ala Asn Thr Thr Asn Gly Thr 110 115 120

Ser Gly Asn Leu Val Pro Val Thr Thr Asn Lys Arg Thr Asn Val 125 130 135

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<210> 396

<211> 2639

<212> DNA

<213> Homo sapiens

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<210> 397

<211> 353

<212> PRT

<213> Homo sapiens

<400> 397

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20 25 30

Phe Gly Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser 35 40 45

Gly Leu Gly Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr
50 55 60

Ala His Leu Asp Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu 65 70 75

Ser Val Leu Ala Gly Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp 80 85 90

Leu Ser His Asn Leu Leu Thr Ser Ile Ser Pro Thr Ala Phe Ser 95 100 105

Arg Leu Arg Tyr Leu Glu Ser Leu Asp Leu Ser His Asn Gly Leu
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Thr Ala Leu Pro Ala Glu Ser Phe Thr Ser Ser Pro Leu Ser Asp 125 130 135

Val Asn Leu Ser His Asn Gln Leu Arg Glu Val Ser Val Ser Ala 140 145 150

<211> 23 <212> DNA

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                                     190
                 185
Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg Tyr Leu
                 200
Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala Phe
                 215
Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln
                 230
Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly
                 245
Leu Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala
                 260
                                     265
Gly Ala Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp
                                     280
Leu Ser Gly Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu
His Leu Pro Ala Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg
Cys Arg Arg Leu Val Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly
                                                          330
Ser Ser Pro Lys Val Pro Leu His Cys Val Asp Thr Arg Glu Ser
                 335
Ala Ala Arg Gly Pro Thr Ile Leu
                 350
<210> 398
<211> 23
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 398
ccctgccagc cgagagcttc acc 23
<210> 399
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<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 399
ggttggtgcc cgaaaggtcc agc 23
<210> 400
<211> 44
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-44
<223> Synthetic construct.
<400> 400
 caaccccaag cttaactggg caggagctga ggtgttttca ggcc 44
<210> 401
<211> 1571
<212> DNA
<213> Homo sapiens
<400> 401
 gatggcgcag ccacagcttc tgtgagattc gatttctccc cagttcccct 50
 qtqqqtctqa qqqqaccaqa agggtgagct acgttggctt tctggaaggg 100
 gaggctatat gcgtcaattc cccaaaacaa gttttgacat ttcccctgaa 150
 atgtcattct ctatctattc actgcaagtg cctgctgttc caggccttac 200
 ctgctgggca ctaacggcgg agccaggatg gggacagaat aaaggagcca 250
 cgacctgtgc caccaactcg cactcagact ctgaactcag acctgaaatc 300
 ttctcttcac gggaggcttg gcagtttttc ttactcctgt ggtctccaga 350
 tttcaggcct aagatgaaag cctctagtct tgccttcagc cttctctctg 400
 ctgcgtttta tctcctatgg actccttcca ctggactgaa gacactcaat 450
 ttgggaagct gtgtgatcgc cacaaacctt caggaaatac gaaatggatt 500
 ttctgagata cggggcagtg tgcaagccaa agatggaaac attgacatca 550
 gaatcttaag gaggactgag tctttgcaag acacaaagcc tgcgaatcga 600
 tgctgcctcc tgcgccattt gctaagactc tatctggaca gggtatttaa 650
 aaactaccag acccctgacc attatactct ccggaagatc agcagcctcg 700
 ccaattcctt tcttaccatc aagaaggacc tccggctctc tcatgcccac 750
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atgacatgcc attgtgggga ggaagcaatg aagaaataca gccagattct 800 gagtcacttt gaaaagctgg aacctcaggc agcagttgtg aaggctttgg 850 gggaactaga cattettetg caatggatgg aggagacaga ataggaggaa 900 agtgatgctg ctgctaagaa tattcgaggt caagagctcc agtcttcaat 950 acctgcagag gaggcatgac cccaaaccac catctctta ctgtactagt 1000 cttgtgctgg tcacagtgta tcttatttat gcattacttg cttccttgca 1050 tgattgtctt tatgcatccc caatcttaat tgagaccata cttgtataag 1100 atttttgtaa tatctttctg ctattggata tatttattag ttaatatatt 1150 tatttatttt ttgctattta atgtatttat ttttttactt ggacatgaaa 1200 ctttaaaaaa attcacagat tatatttata acctgactag agcaggtgat 1250 gtatttttat acagtaaaaa aaaaaaacct tgtaaattct agaagagtgg 1300 ctaggggggt tattcatttg tattcaacta aggacatatt tactcatgct 1350 gatgctctgt gagatatttg aaattgaacc aatgactact taggatgggt 1400 tgtggaataa gttttgatgt ggaattgcac atctacctta caattactga 1450 ccatccccag tagactcccc agtcccataa ttgtgtatct tccagccagg 1500 aatcctacac ggccagcatg tatttctaca aataaagttt tctttgcata 1550 ccaaaaaaa aaaaaaaaa a 1571

<210> 402

<211> 261

<212> PRT

<213> Homo sapiens

<400> 402

Met Arg Gln Phe Pro Lys Thr Ser Phe Asp Ile Ser Pro Glu Met 1 5 10 15

Ser Phe Ser Ile Tyr Ser Leu Gln Val Pro Ala Val Pro Gly Leu 20 25 30

Thr Cys Trp Ala Leu Thr Ala Glu Pro Gly Trp Gly Gln Asn Lys 35 40 45

Gly Ala Thr Thr Cys Ala Thr Asn Ser His Ser Asp Ser Glu Leu
50 55 60

Arg Pro Glu Ile Phe Ser Ser Arg Glu Ala Trp Gln Phe Phe Leu 65 70 75

Leu Leu Trp Ser Pro Asp Phe Arg Pro Lys Met Lys Ala Ser Ser 80 85 90

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Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr Leu Leu Trp Thr
Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser Cys Val Ile
                 110
Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu Ile Arg
                 125
Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile Leu
Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys
                 155
Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe
                 170
Lys Asn Tyr Gln Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser
                 185
Ser Leu Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu
                                     205
                 200
Ser His Ala His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys
Lys Tyr Ser Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln
                                     235
Ala Ala Val Val Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln
                                      250
Trp Met Glu Glu Thr Glu
<210> 403
<211> 28
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-28
<223> Synthetic construct.
<400> 403
 ctcctgtggt ctccagattt caggccta 28
<210> 404
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-26
<223> Synthetic construct.
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<400> 404

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agtcctcctt aagattctga tgtcaa 26
<210> 405
<211> 998
<212> DNA
<213> Homo sapiens
<400> 405
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 aggettttge egetgaecea gagatggeec egagegagea aatteetaet 100
 gtccggctgc gcggctaccg tggccgagct agcaaccttt cccctggatc 150
 tcacaaaaac tcgactccaa atgcaaggag aagcagctct tgctcggttg 200
 ggagacggtg caagagaatc tgccccctat aggggaatgg tgcgcacagc 250
 cctagggatc attgaagagg aaggctttct aaagctttgg caaggagtga 300
 cacccgccat ttacagacac gtagtgtatt ctggaggtcg aatggtcaca 350
 tatgaacatc tccgagaggt tgtgtttggc aaaagtgaag atgagcatta 400
 tcccctttgg aaatcagtca ttggagggat gatggctggt gttattggcc 450
 agtttttagc caatccaact gacctagtga aggttcagat gcaaatggaa 500
 ggaaaaagga aactggaagg aaaaccattg cgatttcgtg gtgtacatca 550
 tgcatttgca aaaatcttag ctgaaggagg aatacgaggg ctttgggcag 600
 gctgggtacc caatatacaa agagcagcac tggtgaatat gggagattta 650
 accacttatg atacagtgaa acactacttg gtattgaata caccacttga 700
 ggacaatatc atgactcacg gtttatcaag tttatgttct ggactggtag 750
 cttctattct gggaacacca gccgatgtca tcaaaagcag aataatgaat 800
 caaccacgag ataaacaagg aaggggactt ttgtataaat catcgactga 850
 ctgcttgatt caggctgttc aaggtgaagg attcatgagt ctatataaag 900
 gctttttacc atcttggctg agaatgaccc cttggtcaat ggtgttctgg 950
 cttacttatg aaaaaatcag agagatgagt ggagtcagtc cattttaa 998
<210> 406
<211> 323
<212> PRT
<213> Homo sapiens
<400> 406
 Met Ser Val Pro Glu Glu Glu Glu Arg Leu Leu Pro Leu Thr Gln
                                      10
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Arg Trp Pro Arg Ala Ser Lys Phe Leu Leu Ser Gly Cys Ala Ala Thr Val Ala Glu Leu Ala Thr Phe Pro Leu Asp Leu Thr Lys Thr Arg Leu Gln Met Gln Gly Glu Ala Ala Leu Ala Arg Leu Gly Asp Gly Ala Arg Glu Ser Ala Pro Tyr Arg Gly Met Val Arg Thr Ala Leu Gly Ile Ile Glu Glu Glu Gly Phe Leu Lys Leu Trp Gln Gly Val Thr Pro Ala Ile Tyr Arg His Val Val Tyr Ser Gly Gly Arg Met Val Thr Tyr Glu His Leu Arg Glu Val Val Phe Gly Lys Ser 115 Glu Asp Glu His Tyr Pro Leu Trp Lys Ser Val Ile Gly Gly Met 135 130 Met Ala Gly Val Ile Gly Gln Phe Leu Ala Asn Pro Thr Asp Leu Val Lys Val Gln Met Gln Met Glu Gly Lys Arg Lys Leu Glu Gly Lys Pro Leu Arg Phe Arg Gly Val His His Ala Phe Ala Lys Ile Leu Ala Glu Gly Gly Ile Arg Gly Leu Trp Ala Gly Trp Val Pro 195 Asn Ile Gln Arg Ala Ala Leu Val Asn Met Gly Asp Leu Thr Thr Tyr Asp Thr Val Lys His Tyr Leu Val Leu Asn Thr Pro Leu Glu 225 Asp Asn Ile Met Thr His Gly Leu Ser Ser Leu Cys Ser Gly Leu 235 Val Ala Ser Ile Leu Gly Thr Pro Ala Asp Val Ile Lys Ser Arg Ile Met Asn Gln Pro Arg Asp Lys Gln Gly Arg Gly Leu Leu Tyr Lys Ser Ser Thr Asp Cys Leu Ile Gln Ala Val Gln Gly Glu Gly Phe Met Ser Leu Tyr Lys Gly Phe Leu Pro Ser Trp Leu Arg Met Thr Pro Trp Ser Met Val Phe Trp Leu Thr Tyr Glu Lys Ile Arg

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Glu Met Ser Gly Val Ser Pro Phe 320
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<210> 407

<211> 31

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-31

<223> Synthetic construct.

<400> 407

cgcggatccc gttatcgtct tgcgctactg c 31

<210> 408

<211> 34

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-34

<223> Synthetic construct.

<400> 408

gcggaattct taaaatggac tgactccact catc 34

<210> 409

<211> 1487

<212> DNA

<213> Homo sapiens

<400> 409

cggacgcgtg ggcgcggac gccggcaggg ttgtgggca gcagtctcct 50
tcctgcgcc gcgcctgaag tcggcgtggg cgtttgagga agctgggata 100
cagcatttaa tgaaaaattt atgcttaaga agtaaaaatg gcaggcttcc 150
tagataattt tcgttggcca gaatgtgaat gtattgactg gagtgagaga 200
agaaatgctg tggcatctgt tgtcgcaggt atattgttt ttacaggctg 250
gtggataatg attgatgcag ctgtggtga tcctaagcca gaacagttga 300
accatgcctt tcacacatgt ggtgtattt ccacattggc tttcttcatg 350
ataaatgctg tatccaatgc tcaggtgaga ggtgatagct atgaaagcgg 400
ctgtttagga agaacaggtg ctcgagttt ggtttcatt tggtgcatat 500
gttacccaaa atactgatgt ttatccagga ctagctgtgt ttttcaaaa 550

tgcacttata ttttttagca ctctgatcta caaatttgga agaaccgaag 600 agctatggac ctgagatcac ttcttaagtc acattttcct tttgttatat 650 tctgtttgta gataggtttt ttatctctca gtacacattg ccaaatggag 700 tagattgtac attaaatgtt ttgtttcttt acatttttat gttctgagtt 750 ttgaaatagt tttatgaaat ttctttattt ttcattgcat agactgttaa 800 tatgtatata atacaagact atatgaattg gataatgagt atcagttttt 850 tattcctgag atttagaact tgatctactc cctgagccag ggttacatca 900 tcttgtcatt ttagaagtaa ccactcttgt ctctctggct gggcacggtg 950 gctcatgcct gtaatcccag cactttggga ggccgaggcg ggccgattgc 1000 ttgaggtcaa gtgtttgaga ccagcctggc caacatggcg aaaccccatc 1050 tactaaaaat acaaaaatta gccaggcatg gtggtgggtg cctgtaatcc 1100 cagctacctg ggaggctgag gcaggagaat cgcttgaacc cggggggcag 1150 aggttgcagt gagctgagtt tgcgccactg cactctagcc tgggggagaa 1200 agtgaaactc cctctcaaaa aaaagaccac tctcagtatc tctgatttct 1250 gaagatgtac aaaaaaatat agcttcatat atctggaatg agcactgagc 1300 cataaaaqqt tttcaqcaaq ttqtaactta ttttggccta aaaatgaggt 1350 ttttttggta aagaaaaat atttgttctt atgtattgaa gaagtgtact 1400 tttatataat gatttttaa atgcccaaag gactagtttg aaagcttctt 1450 ttaaaaagaa ttcctctaat atgactttat gtgagaa 1487

<210> 410

<211> 158

<212> PRT

<213> Homo sapiens

<400> 410

Met Ala Gly Phe Leu Asp Asn Phe Arg Trp Pro Glu Cys Glu Cys
1 5 10 15

Ile Asp Trp Ser Glu Arg Arg Asn Ala Val Ala Ser Val Val Ala $20 \\ 25 \\ 30$

Gly Ile Leu Phe Phe Thr Gly Trp Trp Ile Met Ile Asp Ala Ala 35 40 45

Val Val Tyr Pro Lys Pro Glu Gln Leu Asn His Ala Phe His Thr
50 55 60

Cys Gly Val Phe Ser Thr Leu Ala Phe Phe Met Ile Asn Ala Val 65 70 75

<210> 414

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Ser Asn Ala Gln Val Arg Gly Asp Ser Tyr Glu Ser Gly Cys Leu
Gly Arg Thr Gly Ala Arg Val Trp Leu Phe Ile Gly Phe Met Leu
Met Phe Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Ala
                                     115
Tyr Val Thr Gln Asn Thr Asp Val Tyr Pro Gly Leu Ala Val Phe
                 125
 Phe Gln Asn Ala Leu Ile Phe Phe Ser Thr Leu Ile Tyr Lys Phe
                                      145
                 140
Gly Arg Thr Glu Glu Leu Trp Thr
                 155
<210> 411
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
<400> 411
gtttgaggaa gctgggatac 20
<210> 412
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
<400> 412
 ccaaactcga gcacctgttc 20
<210> 413
<211> 40
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-40
<223> Synthetic construct.
<400> 413
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<211> 1337 <212> DNA <213> Homo sapiens

<400> 414 gttgatggca aacttcctca aaggagggc agagcctgcg cagggcagga 50 gcagctggcc cactggcggc ccgcaacact ccgtctcacc ctctgggccc 100 actgcatcta gaggagggcc gtctgtgagg ccactacccc tccagcaact 150 gggaggtggg actgtcagaa gctggcccag ggtggtggtc agctgggtca 200 gggacctacg gcacctgctg gaccacctcg cettetecat cgaagcaggg 250 aagtgggagc ctcgagccct cgggtggaag ctgaccccaa gccacccttc 300 acctggacag gatgagagtg tcaggtgtgc ttcgcctcct ggccctcatc 350 tttgccatag tcacgacatg gatgtttatt cgaagctaca tgagcttcag 400 catgaaaacc atccgtctgc cacgctggct ggcagcctcg cccaccaagg 450 agatccaggt taaaaagtac aagtgtggcc tcatcaagcc ctgcccagcc 500 aactactttg cgtttaaaat ctgcagtggg gccgccaacg tcgtgggccc 550 tactatgtgc tttgaagacc gcatgatcat gagtcctgtg aaaaacaatg 600 tgggcagagg cctaaacatc gccctggtga atggaaccac gggagctgtg 650 ctgggacaga aggcatttga catgtactct ggagatgtta tgcacctagt 700 gaaatteett aaagaaatte eggggggtge actggtgetg gtggeeteet 750 acgacgatcc agggaccaaa atgaacgatg aaagcaggaa actcttctct 800 gacttgggga gttcctacgc aaaacaactg ggcttccggg acagctgggt 850 cttcatagga gccaaagacc tcaggggtaa aagccccttt gagcagttct 900 taaagaacag cccagacaca aacaaatacg agggatggcc agagctgctg 950 gagatggagg gctgcatgcc cccgaagcca ttttagggtg gctgtggctc 1000 ttcctcagcc aggggcctga agaagctcct gcctgactta ggagtcagag 1050 cccggcaggg gctgaggagg aggagcaggg ggtgctgcgt ggaaggtgct 1100 gcaggtcctt gcacgctgtg tcgcgcctct cctcctcgga aacagaaccc 1150 tcccacagca catcctaccc ggaagaccag cctcagaggg tccttctgga 1200 accagctgtc tgtggagaga atggggtgct ttcgtcaggg actgctgacg 1250 gctggtcctg aggaaggaca aactgcccag acttgagccc aattaaattt 1300 tatttttgct ggttttgaaa aaaaaaaaa aaaaaaa 1337

<220>

<221> Artificial Sequence

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<210> 415
<211> 224
<212> PRT
<213> Homo sapiens
<400> 415
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 Ile Val Thr Thr Trp Met Phe Ile Arg Ser Tyr Met Ser Phe Ser
 Met Lys Thr Ile Arg Leu Pro Arg Trp Leu Ala Ala Ser Pro Thr
 Lys Glu Ile Gln Val Lys Lys Tyr Lys Cys Gly Leu Ile Lys Pro
 Cys Pro Ala Asn Tyr Phe Ala Phe Lys Ile Cys Ser Gly Ala Ala
 Asn Val Val Gly Pro Thr Met Cys Phe Glu Asp Arg Met Ile Met
 Ser Pro Val Lys Asn Asn Val Gly Arg Gly Leu Asn Ile Ala Leu
                                      100
 Val Asn Gly Thr Thr Gly Ala Val Leu Gly Gln Lys Ala Phe Asp
 Met Tyr Ser Gly Asp Val Met His Leu Val Lys Phe Leu Lys Glu
                 125
 Ile Pro Gly Gly Ala Leu Val Leu Val Ala Ser Tyr Asp Asp Pro
 Gly Thr Lys Met Asn Asp Glu Ser Arg Lys Leu Phe Ser Asp Leu
 Gly Ser Ser Tyr Ala Lys Gln Leu Gly Phe Arg Asp Ser Trp Val
                                                          180
                 170
 Phe Ile Gly Ala Lys Asp Leu Arg Gly Lys Ser Pro Phe Glu Gln
 Phe Leu Lys Asn Ser Pro Asp Thr Asn Lys Tyr Glu Gly Trp Pro
 Glu Leu Leu Glu Met Glu Gly Cys Met Pro Pro Lys Pro Phe
<210> 416
<211> 21
<212> DNA
<213> Artificial
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<222> 1-21
<223> Synthetic construct.
<400> 416
gccatagtca cgacatggat g 21
<210> 417
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 417
ggatggccag agctgctg 18
<210> 418
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-26
<223> Synthetic construct.
<400> 418
 aaagtacaag tgtggcctca tcaagc 26
<210> 419
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 419
 tctgactcct aagtcaggca ggag 24
<210> 420
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 420
 attctctcca cagacagctg gttc 24
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<210> 421
<211> 46
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-46
<223> Synthetic construct.
<400> 421
 gtacaagtgt ggcctcatca agccctgccc agccaactac tttgcg 46
<210> 422
<211> 1701
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 1528
<223> unknown base
<400> 422
 gagactgcag agggagataa agagagaggg caaagaggca gcaagagatt 50
 tgtcctgggg atccagaaac ccatgatacc ctactgaaca ccgaatcccc 100
 tggaagccca cagagacaga gacagcaaga gaagcagaga taaatacact 150
 cacgccagga getegetege tetetetete teteteteae teeteeetee 200
 ctctctctct gcctgtccta gtcctctagt cctcaaattc ccagtcccct 250
 gcaccccttc ctgggacact atgttgttct ccgccctcct gctggaggtg 300
 atttggatcc tggctgcaga tgggggtcaa cactggacgt atgagggccc 350
 acatggtcag gaccattggc cagcctctta ccctgagtgt ggaaacaatg 400
 cccagtcgcc catcgatatt cagacagaca gtgtgacatt tgaccctgat 450
 ttgcctgctc tgcagcccca cggatatgac cagcctggca ccgagccttt 500
 ggacctgcac aacaatggcc acacagtgca actctctctg ccctctaccc 550
 tgtatctggg tggacttccc cgaaaatatg tagctgccca gctccacctg 600
 cactggggtc agaaaggatc cccagggggg tcagaacacc agatcaacag 650
 tgaagccaca tttgcagagc tccacattgt acattatgac tctgattcct 700
 atgacagett gagtgagget getgagagge etcagggeet ggetgteetg 750
 ggcatcctaa ttgaggtggg tgagactaag aatatagctt atgaacacat 800
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tctgagtcac ttgcatgaag tcaggcataa agatcagaag acctcagtgc 850

ctcccttcaa cctaagagag ctgctcccca aacagctggg gcagtacttc 900 cgctacaatg gctcgctcac aactccccct tgctaccaga gtgtgctctg 950 gacagttttt tatagaaggt cccagatttc aatggaacag ctggaaaagc 1000 ttcaggggac attgttctcc acagaagagg agccctctaa gcttctggta 1050 cagaactacc gagcccttca gcctctcaat cagcgcatgg tctttgcttc 1100 tttcatccaa gcaggatcct cgtataccac aggtgaaatg ctgagtctag 1150 gtgtaggaat cttggttggc tgtctctgcc ttctcctggc tgtttatttc 1200 attgctagaa agattcggaa gaagaggctg gaaaaccgaa agagtgtggt 1250 cttcacctca gcacaagcca cgactgaggc ataaattcct tctcagatac 1300 catggatgtg gatgacttcc cttcatgcct atcaggaagc ctctaaaatg 1350 gggtgtagga tctggccaga aacactgtag gagtagtaag cagatgtcct 1400 ccttcccctg gacatctctt agagaggaat ggacccaggc tgtcattcca 1450 ggaagaactg cagagccttc agcctctcca aacatgtagg aggaaatgag 1500 gaaatcgctg tgttgttaat gcagaganca aactctgttt agttgcaggg 1550 gaagtttggg atatacccca aagtcctcta cccctcact tttatggccc 1600 tttccctaga tatactgcgg gatctctcct taggataaag agttgctgtt 1650 gaagttgtat atttttgatc aatatatttg gaaattaaag tttctgactt 1700 t 1701

<210> 423

<211> 337

<212> PRT

<213> Homo sapiens

<400> 423

Met Leu Phe Ser Ala Leu Leu Glu Val Ile Trp Ile Leu Ala 1 10 15

Ala Asp Gly Gly Gln His Trp Thr Tyr Glu Gly Pro His Gly Gln 20 25 30

Asp His Trp Pro Ala Ser Tyr Pro Glu Cys Gly Asn Asn Ala Gln 35 40 45

Ser Pro Ile Asp Ile Gln Thr Asp Ser Val Thr Phe Asp Pro Asp 50 55 60

Leu Pro Ala Leu Gln Pro His Gly Tyr Asp Gln Pro Gly Thr Glu
65 70 75

Pro Leu Asp Leu His Asn Asn Gly His Thr Val Gln Leu Ser Leu

90 85 80 Pro Ser Thr Leu Tyr Leu Gly Gly Leu Pro Arg Lys Tyr Val Ala Ala Gln Leu His Leu His Trp Gly Gln Lys Gly Ser Pro Gly Gly Ser Glu His Gln Ile Asn Ser Glu Ala Thr Phe Ala Glu Leu His 125 Ile Val His Tyr Asp Ser Asp Ser Tyr Asp Ser Leu Ser Glu Ala 140 Ala Glu Arg Pro Gln Gly Leu Ala Val Leu Gly Ile Leu Ile Glu Val Gly Glu Thr Lys Asn Ile Ala Tyr Glu His Ile Leu Ser His 170 Leu His Glu Val Arg His Lys Asp Gln Lys Thr Ser Val Pro Pro Phe Asn Leu Arg Glu Leu Leu Pro Lys Gln Leu Gly Gln Tyr Phe Arg Tyr Asn Gly Ser Leu Thr Thr Pro Pro Cys Tyr Gln Ser Val Leu Trp Thr Val Phe Tyr Arg Arg Ser Gln Ile Ser Met Glu Gln Leu Glu Lys Leu Gln Gly Thr Leu Phe Ser Thr Glu Glu Glu Pro Ser Lys Leu Leu Val Gln Asn Tyr Arg Ala Leu Gln Pro Leu Asn Gln Arg Met Val Phe Ala Ser Phe Ile Gln Ala Gly Ser Ser Tyr Thr Thr Gly Glu Met Leu Ser Leu Gly Val Gly Ile Leu Val Gly Cys Leu Cys Leu Leu Ala Val Tyr Phe Ile Ala Arg Lys Ile Arg Lys Lys Arg Leu Glu Asn Arg Lys Ser Val Val Phe Thr Ser 330

<210> 424

<211> 18

<212> DNA

<213> Artificial

Ala Gln Ala Thr Thr Glu Ala

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and a final time from the many time the many time the time time time time time with
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<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 424
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<210> 425
<211> 18
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
<400> 425
 cccgatctgc ctgctgta 18
<210> 426
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 426
 ctgcactgta tggccattat tgtg 24
<210> 427
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 427
 cagaaaccca tgatacccta ctgaacaccg aatcccctgg aagcc 45
<210> 428
 <211> 1073
 <212> DNA
 <213> Homo sapiens
 <400> 428
 aatttttcac cagagtaaac ttgagaaacc aactggacct tgagtattgt 50
 acattttgcc tcgtggaccc aaaggtagca atctgaaaca tgaggagtac 100
 gattctactg ttttgtcttc taggatcaac tcggtcatta ccacagctca 150
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aacctgcttt gggactccct cccacaaaac tggctccgga tcagggaaca 200 ctaccaaacc aacagcagtc aaatcaggtc tttccttctt taagtctgat 250 accattaaca cagatgetea caetggggee agatetgeat etgttaaate 300 ctgctgcagg aatgacacct ggtacccaga cccacccatt gaccctggga 350 gggttgaatg tacaacagca actgcaccca catgtgttac caatttttgt 400 cacacaactt ggagcccagg gcactatcct aagctcagag gaattgccac 450 aaatcttcac gagcctcatc atccattcct tgttcccggg aggcatcctg 500 cccaccagtc aggcaggggc taatccagat gtccaggatg gaagccttcc 550 agcaggagga gcaggtgtaa atcctgccac ccagggaacc ccagcaggcc 600 gcctcccaac tcccagtggc acagatgacg actttgcagt gaccacccct 650 gcaggcatcc aaaggagcac acatgccatc gaggaagcca ccacagaatc 700 agcaaatgga attcagtaag ctgtttcaaa ttttttcaac taagctgcct 750 cgaatttggt gatacatgtg aatctttatc attgattata ttatggaata 800 gattgagaca cattggatag tcttagaaga aattaattct taatttacct 850 gaaaatattc ttgaaatttc agaaaatatg ttctatgtag agaatcccaa 900 cttttaaaaa caataattca atggataaat ctgtctttga aatataacat 950 tatgctgcct ggatgatatg catattaaaa catatttgga aaactggaaa 1000 aaaaaaaaaa aaaaaaaaaa aaa 1073

<210> 429

<211> 209

<212> PRT

<213> Homo sapiens

<400> 429

Met Arg Ser Thr Ile Leu Leu Phe Cys Leu Leu Gly Ser Thr Arg
1 5 10 15

Ser Leu Pro Gln Leu Lys Pro Ala Leu Gly Leu Pro Pro Thr Lys 20 25 30

Leu Ala Pro Asp Gln Gly Thr Leu Pro Asn Gln Gln Gln Ser Asn 35 40 45

Gln Val Phe Pro Ser Leu Ser Leu Ile Pro Leu Thr Gln Met Leu
50 55 60

Thr Leu Gly Pro Asp Leu His Leu Leu Asn Pro Ala Ala Gly Met
65 70 75

```
Thr Pro Gly Thr Gln Thr His Pro Leu Thr Leu Gly Gly Leu Asn
Val Gln Gln Leu His Pro His Val Leu Pro Ile Phe Val Thr
                                                        105
                 95
Gln Leu Gly Ala Gln Gly Thr Ile Leu Ser Ser Glu Glu Leu Pro
Gln Ile Phe Thr Ser Leu Ile Ile His Ser Leu Phe Pro Gly Gly
                                                         135
                125
Ile Leu Pro Thr Ser Gln Ala Gly Ala Asn Pro Asp Val Gln Asp
                140
Gly Ser Leu Pro Ala Gly Gly Ala Gly Val Asn Pro Ala Thr Gln
                                                         165
                                     160
Gly Thr Pro Ala Gly Arg Leu Pro Thr Pro Ser Gly Thr Asp Asp
Asp Phe Ala Val Thr Thr Pro Ala Gly Ile Gln Arg Ser Thr His
                                                         195
                185
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Ala Ile Glu Glu Ala Thr Thr Glu Ser Ala Asn Gly Ile Gln 200 205

<210> 430

<211> 1257

<212> DNA

<213> Homo Sapien

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cggagcgcgg cggagccaga cgctgaccac gttcctctcc tcggtctcct 100
ccgcctccag ctccgcgctg cccggcagcc gggagccatg cgaccccagg 150
gccccgccgc ctccccgcag cggctccgcg gcctcctgct gctcctgctg 200
ctgcagctgc ccggccgtc gagcgcctct gagatcccca aggggaagca 250
aaaggcgcag ctccggcaga gggaggtggt ggacctgtat aatggaatgt 300
gcttacaagg gccagcagga gtgcctggtc gagacgggag ccctggggcc 350
aatgttattc cgggtacacc tgggatccca ggtcgggatg gattcaaagg 400
agaaaagggg gaatgtctga gggaaagctt tgaggagtcc tggacaccca 450
actacaagca gtgttcatgg agttcattga attatggcat agatcttggg 500
aaaattgcgg agtgtacatt tacaaagatg cgttcaaata gtgctctaag 550
agttttgttc agtggctcac ttcggctaaa atgcagaaat gcatgctgtc 600
agcgttggta tttcacattc aatggagctg aatgttcagg acctettccc 650

attgaagcta taatttatt ggaccaagga agccctgaaa tgaattcaac 700 aattaatatt catcgcactt cttctgtgga aggactttgt gaaggaattg 750 gtgctggatt agtggatgtt gctatctggg ttggcacttg ttcagattac 800 ccaaaaggag atgcttctac tggatggaat tcagtttctc gcatcattat 850 tgaaggaacta ccaaaataaa tgctttaatt ttcatttgct acctctttt 900 ttattatgcc ttggaatggt tcacttaaat gacattttaa ataagtttat 950 gtatacatct gaatgaaaag caaagctaaa tatgtttaca gaccaaagtg 1000 tgattcaca ctgttttaa atctagcatt attcatttg cttcaatcaa 1050 aagtggttc aatattttt ttagttggt agaatactt cttcatagtc 1100 accatctctc aacctataat ttggaatatt gttgtggtct tttgttttt 1150 ctcttagtat agcatttta aaaaaatata aaagctacca atctttgtac 1200 aatttgtaaa tgttaagaat ttttttata tctgttaaat aaaaattatt 1250 tccaaca 1257

<210> 431

<211> 243

<212> PRT

<213> Homo Sapien

<400> 431

Met Arg Pro Gln Gly Pro Ala Ala Ser Pro Gln Arg Leu Arg Gly
1 5 10 15

Leu Leu Leu Leu Leu Gln Leu Pro Ala Pro Ser Ser Ala 20 25 30

Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg 35 40 45

Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala
50 55 60

Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro
65 70 75

Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys
80 85 90

Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn

Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu 110 115 120

Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser 125 130 135

<210> 435

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Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg
Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu
                155
Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln
Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser
                185
Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp
                 200
Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp
Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Glu Glu
                                     235
Leu Pro Lys
<210> 432
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Artificial Sequence
<400> 432
aggacttgcc ctcaggaa 18
<210> 433
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 433
 cgcaggacag ttgtgaaaat a 21
<210> 434
<211> 21
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 434
 atgacgeteg tecaaggeea c 21
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<211> 19
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 435
 cccacctgta ccaccatgt 19
<210> 436
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 436
 actccaggca ccatctgttc tccc 24
<210> 437
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 437
 aagggctggc attcaagtc 19
<210> 438
<211> 19
<212> DNA
<213> Artificial Sequence
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 <400> 438
 tgacctggca aaggaagaa 19
 <210> 439
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 <213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
 <400> 439
 cagccaccct ccagtccaag g 21
 <210> 440
 <211> 19
 <212> DNA
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<220>
<223> Synthetic oligonucleotide probe
<400> 440
 gggtcgtgtt ttggagaga 19
<210> 441
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 441
 ctggccctca gagcaccaat 20
<210> 442
<211> 25
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 442
 tcctccatca cttcccctag ctcca 25
<210> 443
<211> 24
<212> DNA
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<223> Synthetic oligonucleotide probe
<400> 443
 ctggcaggag ttaaagttcc aaga 24
<210> 444
<211> 18
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<223> Synthetic oligonucleotide probe
<400> 444
 aaaggacacc gggatgtg 18
<210> 445
<211> 26
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
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and the stands that the stands the stands
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<400> 445
agcgtacact ctctccaggc aaccag 26
<210> 446
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 446
 caattctgga tgaggtggta ga 22
<210> 447
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 447
 caggactgag cgcttgttta 20
<210> 448
<211> 21
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 448
 caaagcgcca agtaccggac c 21
<210> 449
<211> 18
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 449
 ccagacctca gccaggaa 18
<210> 450
<211> 18
 <212> DNA
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 <220>
 <223> Synthetic oligonucleotide probe
 <400> 450
 ccctagctga ccccttca 18
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<210> 451
<211> 23
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<400> 451
tctgacaagc agttttctga atc 23
<210> 452
<211> 26
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<223> Synthetic oligonucleotide probe
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 ctctcccct cccttttcct ttgttt 26
<210> 453
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 453
 ctctggtgcc cacagtga 18
<210> 454
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 454
 ccatgcctgc tcagccaaga a 21
<210> 455
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 455
 caggaaatct ggaaacctac agt 23
<210> 456
<211> 20
<212> DNA
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<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 456
 ccttgaaaag gacccagttt 20
<210> 457
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 457
atgagtcgca cctgctgttc cc 22
<210> 458
<211> 18
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 458
tagcagctgc ccttggta 18
<210> 459
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 459
 aacagcaggt gcgactcatc ta 22
<210> 460
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 460
 tgctaggcga cgacacccag acc 23
<210> 461
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
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The street s
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<223> Synthetic oligonucleotide probe
<400> 461
tggacacgtg gcagtgga 18
<210> 462
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 462
 tcatggtctc gtcccattc 19
<210> 463
<211> 27
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 463
 caccatttgt ttctctgtct ccccatc 27
<210> 464
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 464
 ccggcatcct tggagtag 18
<210> 465
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 465
 tccccattag cacaggagta 20
<210> 466
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 466
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and group group group the property than the second of the
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aggetettge etgteetget get 23
<210> 467
<211> 18
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 467
 gcccagagtc ccacttgt 18
<210> 468
<211> 19
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<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 468
 actgctccgc ctactacga 19
<210> 469
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 469
 aggcatecte geogteetea 20
<210> 470
<211> 19
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 470
 aaggccaagg tgagtccat 19
<210> 471
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 471
 cgagtgtgtg cgaaacctaa 20
<210> 472
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<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 472
tcagggtcta catcagcctc ctgc 24
<210> 473
<211> 19
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 473
aaggccaagg tgagtccat 19
<210> 474
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 474
cctactgagg agccctatgc 20
<210> 475
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 475
tccaggtgga ccccacttca gg 22
<210> 476
<211> 24
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 476
 gggaggctta taggcccaat ctgg 24
<210> 477
<211> 50
<212> DNA
<213> Artificial Sequence
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<220> <223> Synthetic oligonucleotide probe

<400> 477 ggcttcagca gcacgtgtga agtcgaagtc gcagtcacag atatcaatga 50